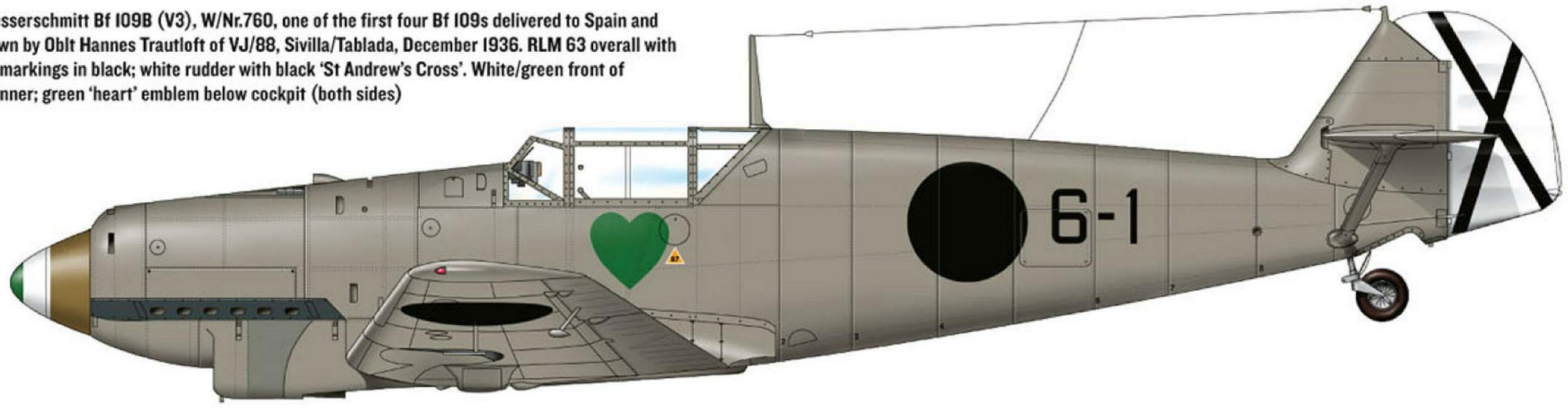
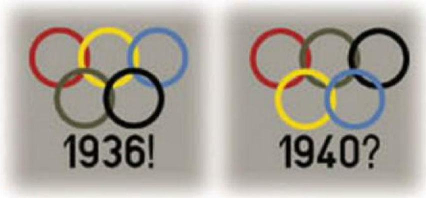
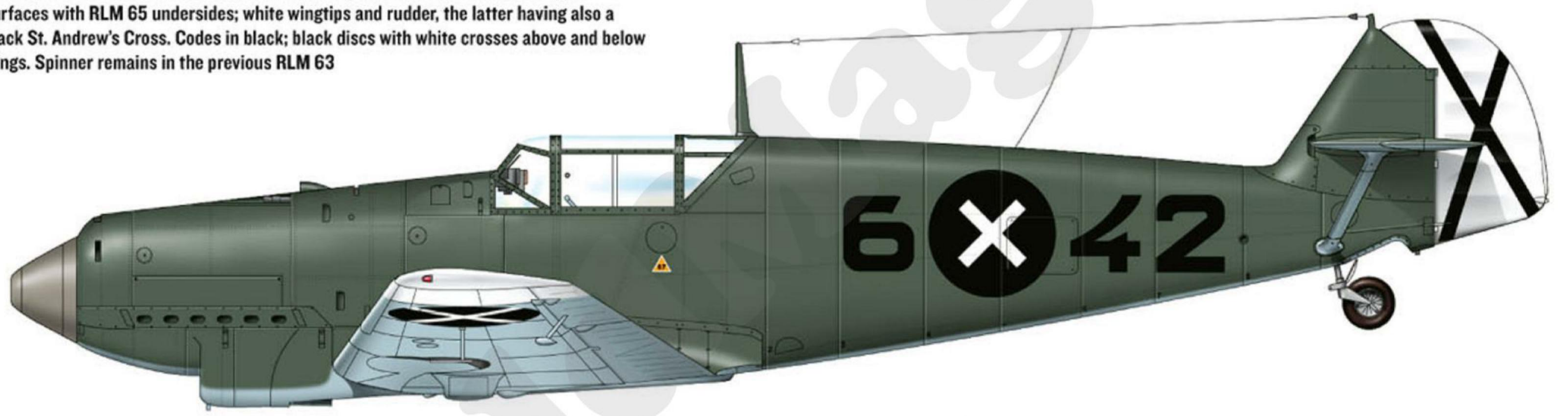
Messerschmitt Bf 109B (V3), W/Nr.760, one of the first four Bf 109s delivered to Spain and flown by Oblt Hannes Trautloft of VJ/88, Sivilla/Tablada, December 1936. RLM 63 overall with all markings in black; white rudder with black 'St Andrew's Cross'. White/green front of spinner; green 'heart' emblem below cockpit (both sides)



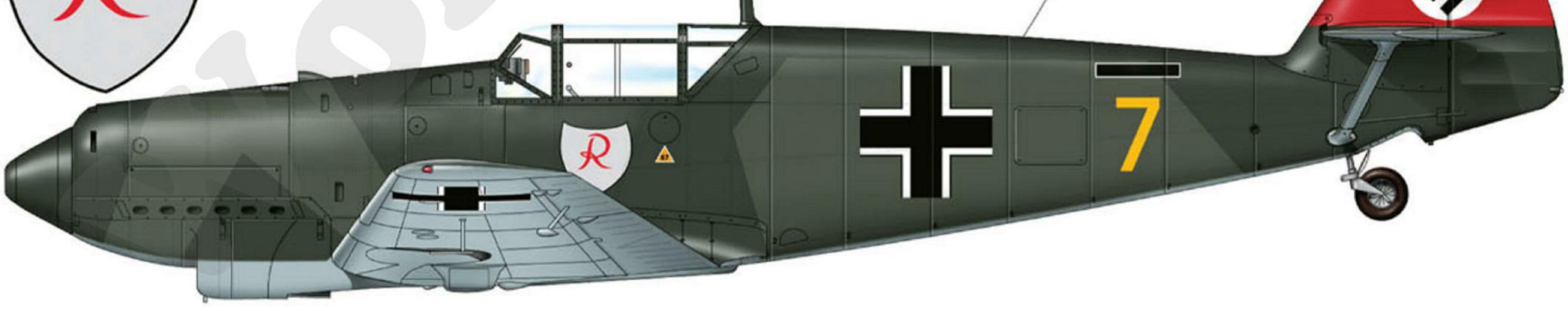



Above: Messerschmitt Bf 109B-2, 6•30, flown by Uffz. Wilheim Staege, 2.J/88, Alar d'el Rey, summer 1937. RLM 62/63 upper surfaces with RLM 65 undersides; white wingtips and rudder, the latter having a black St. Andrew's cross superimposed. Black codes; 'top hat' insignia on fuselage sides

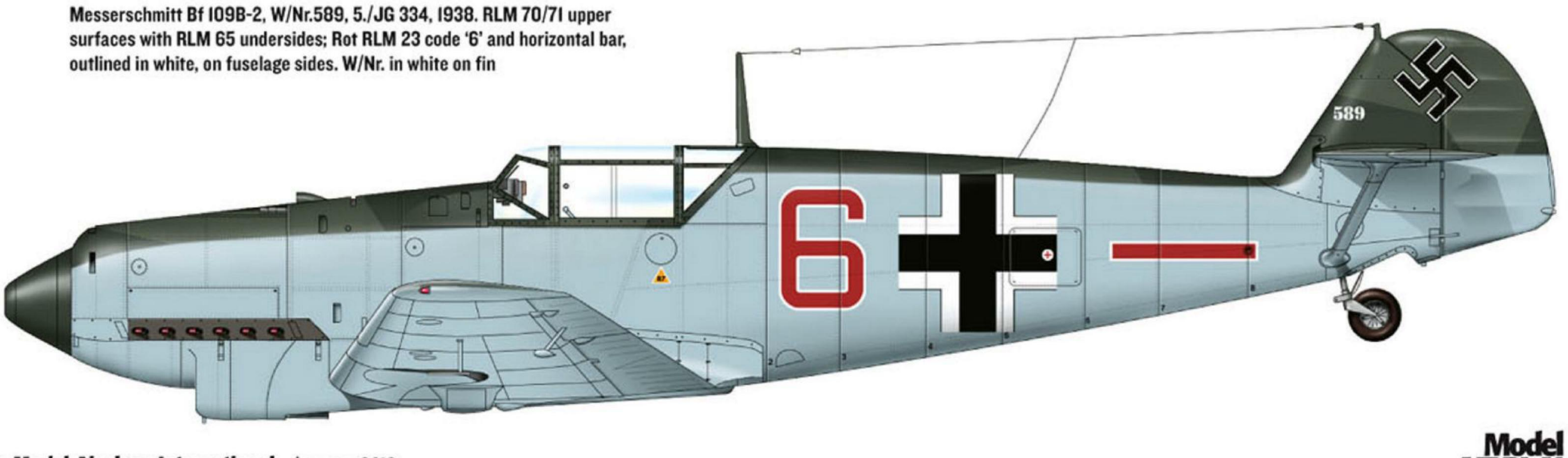
Below: Messerschmitt Bf 109B-1, 6•42, 2.J/88, Spain, March 1937. RLM 62 upper surfaces with RLM 65 undersides; white wingtips and rudder, the latter having also a black St. Andrew's Cross. Codes in black; black discs with white crosses above and below wings. Spinner remains in the previous RLM 63

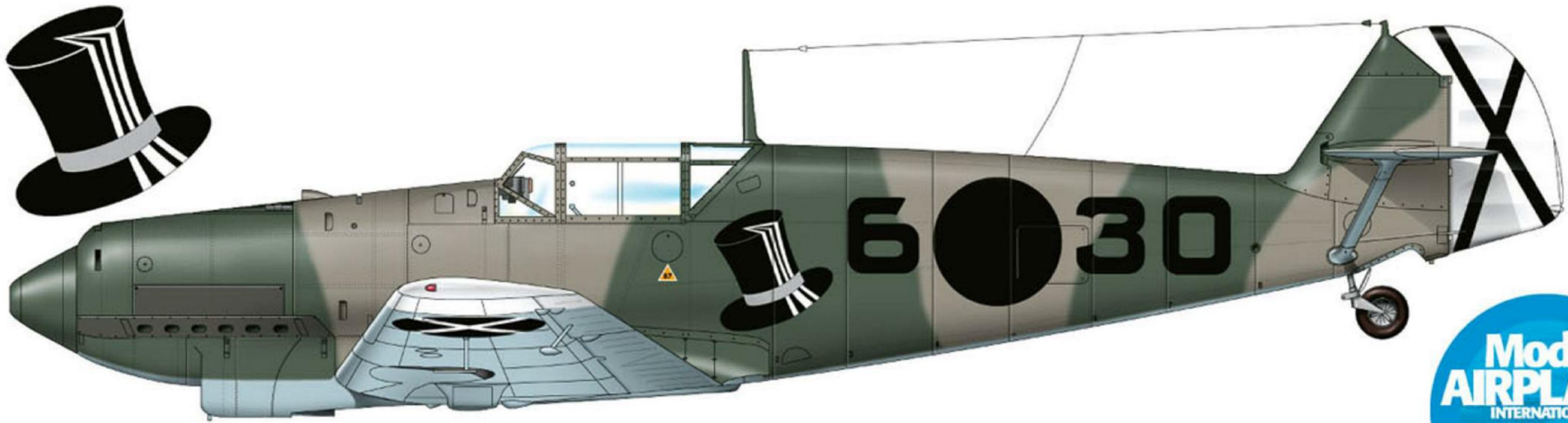


Messerschmitt Bf 109B, 'Yellow 7', of 6./JG132 based at Juterbog-Damm in October 1937. RLM 70/71 upper surfaces with RLM 65 undersides; Rot RLM 23 band across vertical tail surfaces with black Swastika within a white disc. Unit badge below cockpit; yellow '7' on rear fuselage with black bar, outlined in white




Messerschmitt Bf 109B-2, W/Nr.589, 5./JG 334, 1938. RLM 70/71 upper surfaces with RLM 65 undersides; Rot RLM 23 code '6' and horizontal bar, outlined in white, on fuselage sides. W/Nr. in white on fin



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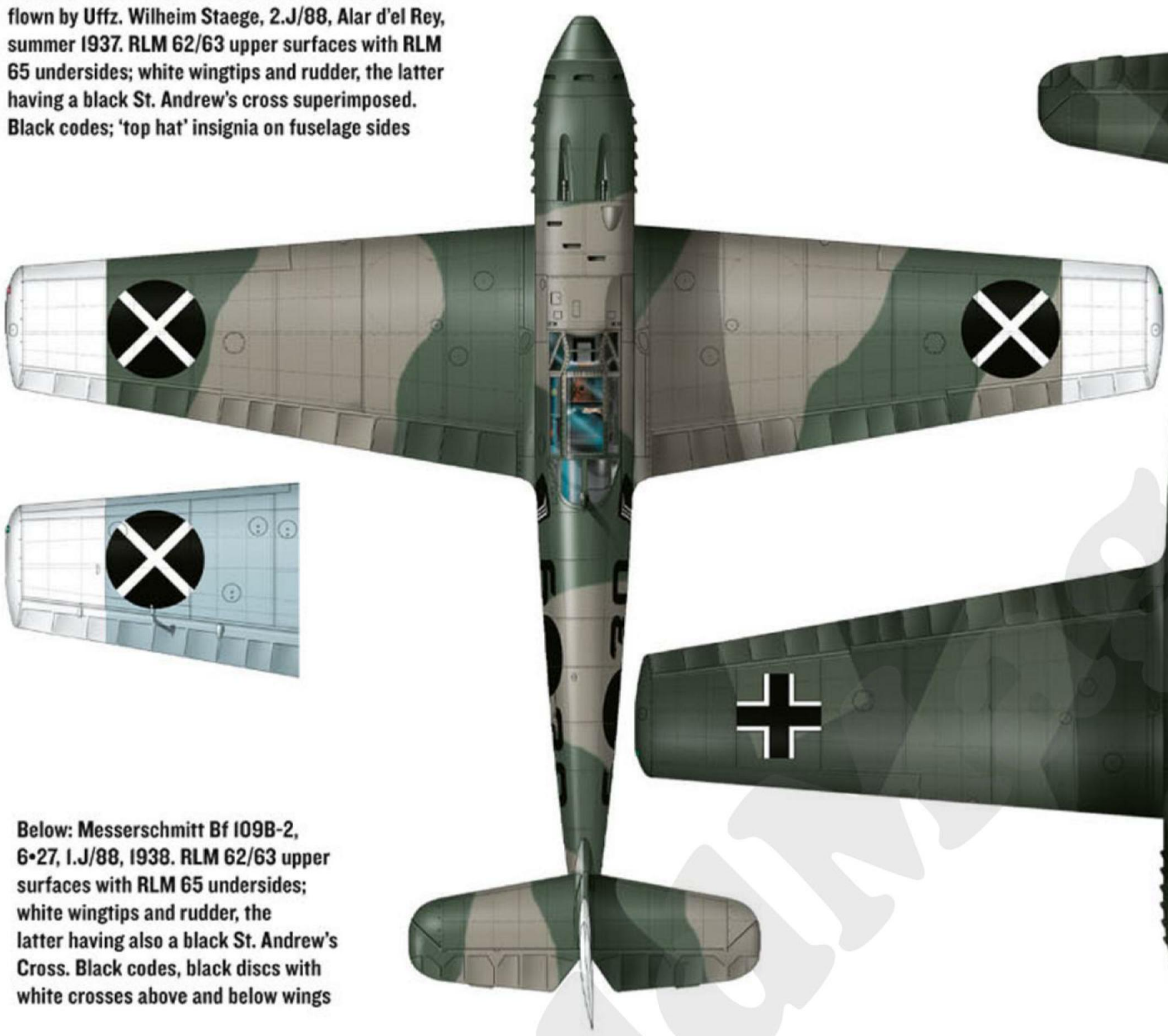
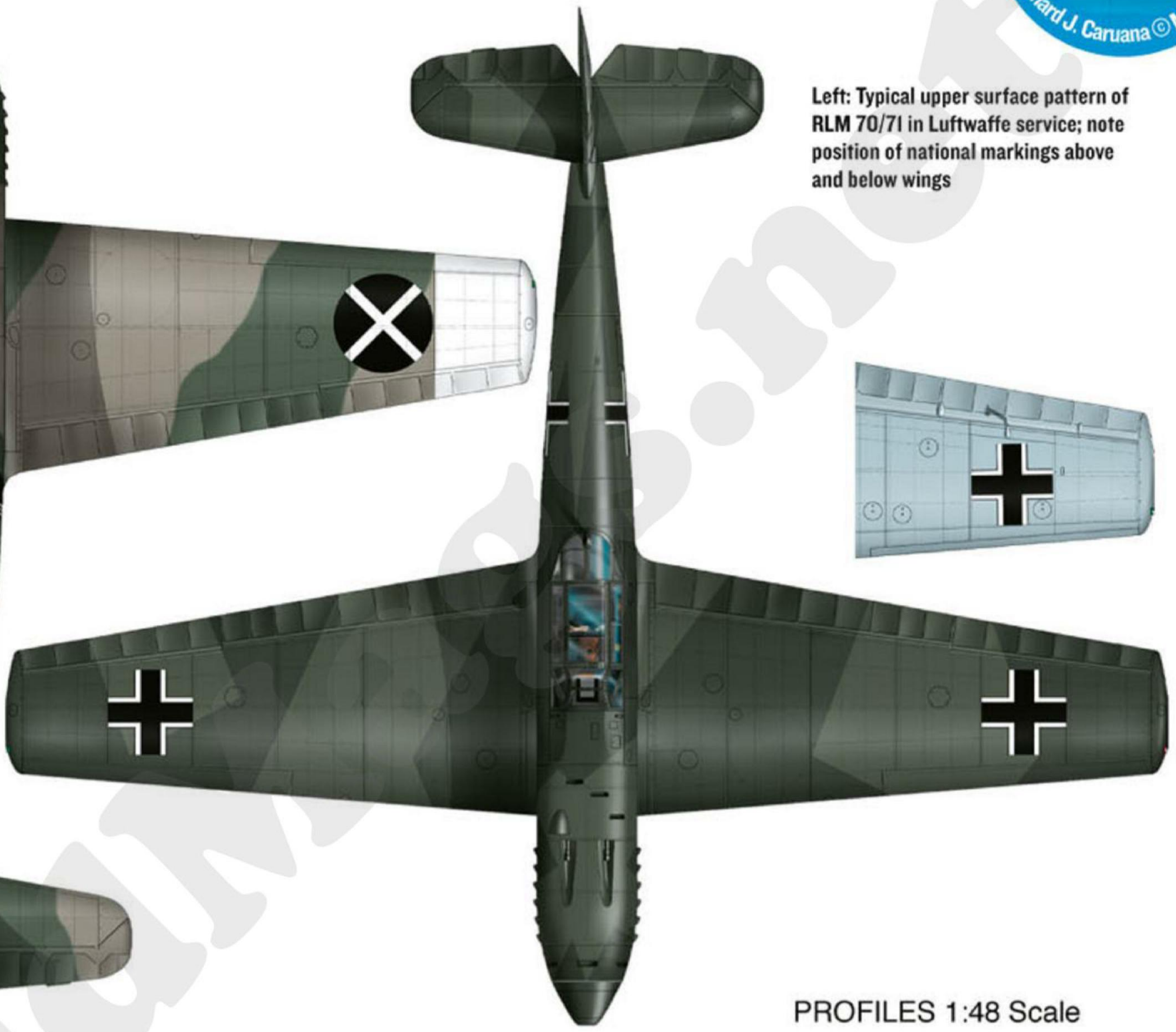
Original Artwork by
Richard J. Caruana © MAI 2011

**Above & Below:** Messerschmitt Bf 109B-2, 6•30, flown by Uffz. Wilheim Staege, 2.J/88, Alar d'el Rey, summer 1937. RLM 62/63 upper surfaces with RLM 65 undersides; white wingtips and rudder, the latter having a black St. Andrew's cross superimposed. Black codes; 'top hat' insignia on fuselage sides





**Left:** Typical upper surface pattern of RLM 70/71 in Luftwaffe service; note position of national markings above and below wings

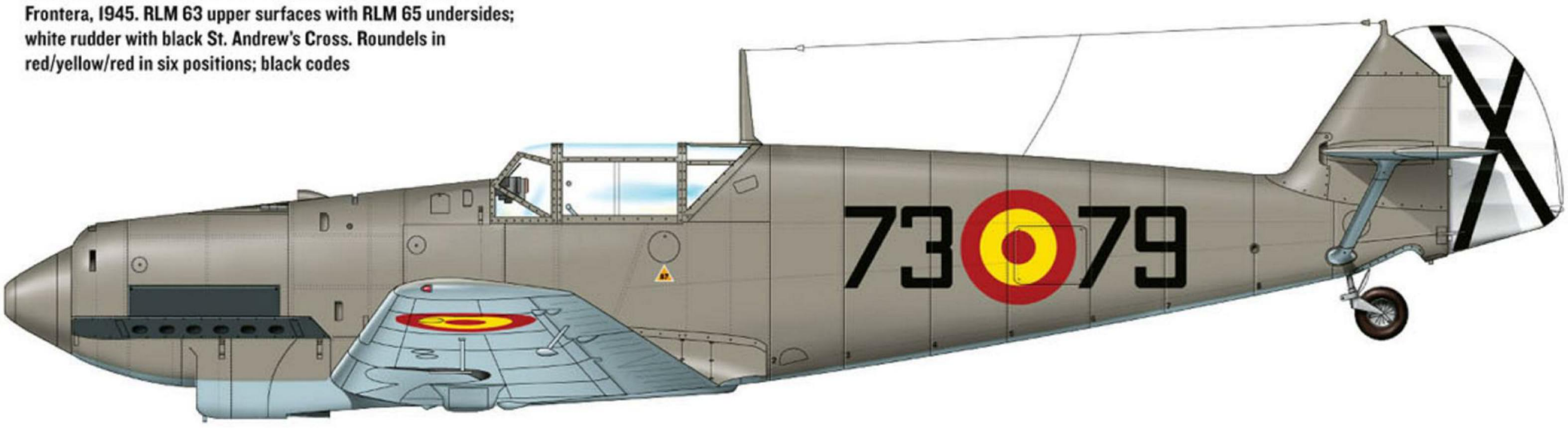
**Below:** Messerschmitt Bf 109B-2, 6•27, 1.J/88, 1938. RLM 62/63 upper surfaces with RLM 65 undersides; white wingtips and rudder, the latter having also a black St. Andrew's Cross. Black codes, black discs with white crosses above and below wings

PROFILES 1:48 Scale

0 metres 1 2

0 feet 3 6

Messerschmitt Bf 109B-2, 73•79, Escuela de Caza, Morón de la Frontera, 1945. RLM 63 upper surfaces with RLM 65 undersides; white rudder with black St. Andrew's Cross. Roundels in red/yellow/red in six positions; black codes

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A factory-fresh SM.84 awaiting delivery to an operational Regia Aeronautica unit. Of note in this view is the side window armed with a hand-operated 12.7mm machine gun. When not in use the gun was stored internally and the window closed with a roller blind (R.J. Caruana Archives)

# ITALY'S WIDOW MAKER
## THE SAVOIA-MARCHETTI SM.84

The adaptation of civilian airliners for military use was not unknown in the period between the two World Wars and the Savoia-Marchetti SM.79 proved to be one of the more successful. It was therefore logical for the parent firm to develop the design further by removing all traces of its civilian airline ancestry while retaining all those features that had made the SM.79 such a formidable military aircraft.

It was proposed to utilise the same wing of the SM.79 fitted with more powerful Piaggio P.XI RC.40 radial engines each providing 1,000hp, mated to a completely new fuselage fitted with a twin-tail configuration to improve field of fire from a dorsally mounted Scotti-Isotta Lanciani 'Delta E' turret armed with a 12.7mm machine gun. The new fuselage was 2 metres longer than than of the SM.79 and higher in cross-section housing a bomb bay for a maximum load of 1,000kg internally. This load was carried horizontally in the lower section of the fuselage instead vertically as in the SM.79, thus leaving the entire upper section of the interior free from the cockpit to the rear end allowing the crew to move around.

Unlike its predecessor, the new aircraft would be fitted with over 700kg of defensive armour plating, which with the other modifications raised the empty weight by 2,000kg. Apart from the dorsal turret two further 12.7mm hand-operated guns were fitted to fire through side windows in the rear fuselage fitted with shutter blinds when the guns were not in use, and another 12.7mm hand-operated machine gun firing from a ventral gondola aft of the wing leading edges. Another ventral gondola housing the bomb aiming equipment was fitted exactly below the pilot's cockpit and could be extracted during the final phases of the attack and retracted into the fuselage during cruise.

Well before testing a prototype of the new design Ingenier Alessandro Marchetti chose to test the new features on a converted SM.79 designated Aereo 120, and an example from the 8th production run (MM.21493) was fitted with the new twin-fin tail and Fiat A.73 RC.38 radials. Following ground tests the modified '79' was flown for the first time on 17 June 1938 by Passaleva and Bertolotti with trials lasting well into October of that year when on the 12th of that month test pilots Prota and Maffezzoni (who had meanwhile joined the test programme) flew it to the 1° Centro Sperimentale at Guidonia.

Alessandro Passaleva performed the maiden flight of the first true SM.84 (MM.22395) at Vergiate on 5 June 1940, five days before Italy declared war on the Axis side. Initial orders for 546 examples reflected the Regia Aeronautica's (RA) conviction that the new aircraft – then still being referred to in some circles as the SM.79bis – had enormous military potential. Of these, the first order for 246 machines had been placed before the first test flights.

However the test programme running well into September 1940 began to reveal serious shortcomings and orders were cut down to 372 examples by December of that year. A 20 percent increase in wing loading negatively affected flight performance which in the SM.84's case was anything but brilliant. Compared to the aerodynamically much cleaner Cant Z.1007, similar in size, weight and engine power, the SM.84's suffered immensely from instability and lack of manoeuvrability; take-off distance compared to the SM.79 increased by some 50 percent. Moreover the SM.84 had a tendency to swing violently to the right on take-off due to the torque of three engines running in the same direction, coupled with the highly ineffective and diminutive vertical tail surfaces.

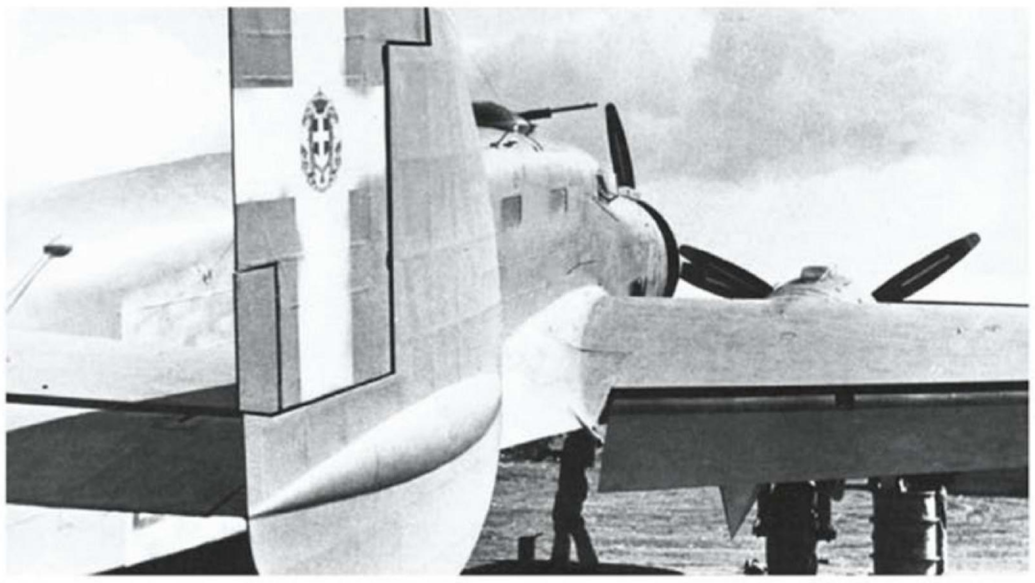
The RA had long been proposing and planning the acquisition of a purpose-built torpedo bomber and probably the biggest mistake was that of assigning the new Savoia-Marchetti aircraft for such a role. SM.84 pilots found little confidence in the aircraft's manoeuvrability and when operated as a torpedo bomber it would eventually claim a considerable cost in lives. Early in 1941 the 41° Gruppo Bombardamento Terrestre (BT) began their conversion from the Z.1007bis in Puglia onto the first examples awaiting them at Littoria (Latina) under the command of Tenente Ettore Muti accompanied by a number of seasoned crews, all highly experienced veterans of the Spanish Civil War. Working up period with the new bomber was immediately marred by the loss on 2 February of the first SM.84 of the 204^ Squadriglia whilst landing at night, with the loss of the two crew members. The unit was considered operational by early May 1941 when the 41° Gruppo began its move to the Aegean via Capua where torpedoes were fitted to the SM.84s, and then Lecce for refuelling. Twelve torpedo bombers belonging to the 204^ and 205^ Squadriglie reached Gadurrà on 5 May with the first operational sorties being launched on the 20th of that month bombing naval and ground targets, sometimes accompanied by Cant Z.1007bis bombers, up to 9 February 1942.

Requests to dispatch some 20 SM.84s to North Africa in March 1941 were not met as these aircraft went to equip the 36° Stormo's 108° Gruppo (256^ and 257^ Squadriglie) at Bologna-Borgo Panigale beginning from the second week of May. Crews from these units had undergone a torpedo-bombing course and they went into action on 27 September 1941 against

Beautiful shot of a SM.84 fresh out of the production line showing to advantage the camouflage style of the period, the wing markings and the yellow engine cowlings, characteristic of this aircraft at that period. Note also the extended side and front glazing of the cockpit (R.J. Caruana Archives)



Model AIRPLANE INTERNATIONAL



The light uniform colouring of this SM.84 indicates it has been repainted in *Grigio Mimetico* or *Grigio Azzurro Chiaro I* overall for operations over the sea in the torpedo-bomber role. Taken at Gerbini in 1941, this photo also indicates the rough way the overpainting was applied without proper masking of previous markings, particularly the rudder crosses. 282-2 belonged to the *282ª Squadriglia Autonomo*, having previously formed part of the *41º Gruppo* (R.J. Caruana Archives)

the British Fleet south of Sardinia. During this action HMS Nelson was torpedoed, suffering damage that kept her out of action till May of the following year. However it came at a very high cost to the SM.84 crews with the loss of six aircraft, the Stormo commander Col Riccardo Seidl, and three Squadriglie commanders and 28 crew members who pressed on with the attack notwithstanding facing heavy defensive fire.

The 36º Stormo scored another success on 15 November 1941 when the merchantman Empire Defender was sunk close to La Galite. During December the unit dispatched to Sicily three SM.84s for operations against British naval units sailing further south in the Central Mediterranean but their closeness to Malta coupled with air cover provided by Royal Navy (RN) aircraft carriers to convoys plying that route resulted in scarce success and further losses, while some SM.84s barely managed at times to reach base due to heavy battle damage sustained. On 7 March 1942 three SM.84s from the 36º Stormo left Decimomannu to hunt for the last remaining RN battleship still operating in the Mediterranean but ran out of fuel due to a strong headwind and were forced to land in Algiers; French authorities there were running out of patience as a dozen Italian aircraft on average were using Tunisian and Algerian airfields every month in such a manner; the SM.84s were impounded, together with a pair of SM.79s, and were only released five days later after lengthy diplomatic haggling, after they were provided with barely enough fuel to reach Sardinia. On 9 April 1942, during the height of the Battle of Malta, eight SM.84s from the 36º Stormo attacked the RN cruiser HMS Penelope between La Galite and Cape Blanc; the cruiser has been the target of constant attacks and so severe was its damage that on reaching Malta she was unofficially renamed 'HMS Pepperpot'!

Meanwhile deliveries of SM.84s were made to the 282ª Squadriglia Aerosilurante (AS) Autonoma on 8 July 1941 at Littoria followed by units of the 7º Stormo BT (4º Gruppo – 14ª and 15ª Squadriglie; 25º Gruppo – 8ª and 9ª Squadriglie) three weeks later at Cameri. The former became operational during the last quarter of 1941 (till 2 January 1942) operating from Sicily, targeting both British merchant and naval vessels supplying Malta, until their role was taken over by units of the 7º Stormo operating from Sciacca starting early in March 1942. Other units began to be equipped with the SM.84, including the 32º Stormo reformed at Bologna-Borgo Panigale in September 1942 consisting of the 38º Gruppo (49ª and 50ª Squadriglie) and the 89º Gruppo (228ª and 229ª Squadriglie).

The 36º Stormo continued to bear the brunt of fighting the British convoys plying between Gibraltar and Malta when a last major offensive aimed at cutting off the Island and submitting it to surrender was launched in June 1942. On the 14th of that month 14 torpedo-bombers left Decimomannu to attack a strong naval force south of Sardinia. Before, during and after launching their torpedoes the SM.84s met heavy anti-aircraft fire and escorting fighters, suffering the loss of six aircraft, including that of the 109º Gruppo commander, Ten Col Giovanni Farina; only one SM.84 crew was rescued from the sea. A similar action by the 4º Stormo from Sciacca in the afternoon some 60km south of Pantelleria was likewise met with heavy defensive fire and two SM.84s were shot down by fighters escorting the convoy. This major aero-naval battle continued well into August, and reached its peak when a massive convoy, Operation Pedestal, began to run the gauntlet towards Malta; among the heavy losses was that of HMS Eagle on the 11th. By 13 August four of the 14 merchantmen forming the supply element arrived in Grand Harbour; nine had been sunk and the last major prize remaining barely afloat was the tanker 'Ohio'. Ten SM.84s from the 32º Stormo, together with 33 SM.79s attacked the convoy the following day; escorting Macchi C.202s and Reggiane Re.2001s managed to limit losses to two SM.84s. The 'Ohio' made it to Malta the following day, raising the siege and Axis units turned their attention to those vessels from the convoy turning back towards Gibraltar.

An upgraded version of the Savoia-Marchetti torpedo-bomber began to reach RA units in 1942. Major difference from its predecessor was an increase in wing dihedral in an effort to improve handling that had long been considered highly inefficient by its crews. The SM.84bis featured revised cockpit cabin framing with an ejectable top section and the introduction of two armoured glass front panels. Air scoops above engine cowlings were enlarged and the torpedo-release mechanism improved. Notwithstanding its limitations, never achieving the original design target of replacing the SM.79 in service, the SM.84 continued to be supplied to more units, including the 99º Gruppo of the 43º Stormo towards the end of July 1942. By that time it had become clear that the SM.84 was inadequate as a torpedo-bomber and the 'bis' version was assigned the role of high-altitude bomber; this resulted in another failure as the aircraft's performance above 4,500m fell drastically and fuel consumption increased considerably.

Towards the end of 1942 the only unit with operationally efficient SM.84s was the 32º Stormo, which was transferred from Gioia del Colle to Sardinia in November with 24 aircraft. The unit's first operation from there was on 1 December to counter Operation Torch, the Anglo-American landings in North Africa, with an attack against Bône (Algeria). Allied fighters shot down three of the ten SM.84s from the 89º Gruppo and a further three were so badly damaged that they crashed on landing back at base. By April 1943 the total SM.84 force had been reduced to 64 aircraft (of which only 34 serviceable) and the 10º Stormo became the first unit to relinquish the type, followed by the 8º and 32º. The 43º Stormo became the sole unit still operating the SM.84 from Gioia del Colle at the time of Operation Husky, the invasion of Sicily on 11 July 1943, from where the 98º Gruppo lost ten aircraft in only four missions; the other section of the Stormo, the 99º Gruppo returned to Lonate Pozzolo with 15 aircraft, only four of which were serviceable. At the time of the Armistice of 8 September, the 98º Gruppo had been reduced to 12 aircraft while the 99º had 18 on strength; no less than 130 SM.84s languished unused or unusable in stores spread around Italy.

The 98º Gruppo was integrated into the Co-Belligerent Air Force, forming the 241ª Squadriglia on seven SM.84s in Puglia where they served in the transport role. In an effort to improve the aircraft's performance a sole SM.84ter was built in 1944, having a wing of longer span and enlarged area powered by 1,500hp Piaggio P.XII engines (MM.485 – ex MM.22497). It was tested just before the end of hostilities clocking a maximum speed of 500km/h. The newly-formed Italian Air Force retrieved it on 4 February 1946 transferring it to Rome-Centocelle airport. Handling qualities were found to be much improved, as was take off performance. However the SM.84ter was lost during a fire during ground running of the engines at Rome in October 1946.

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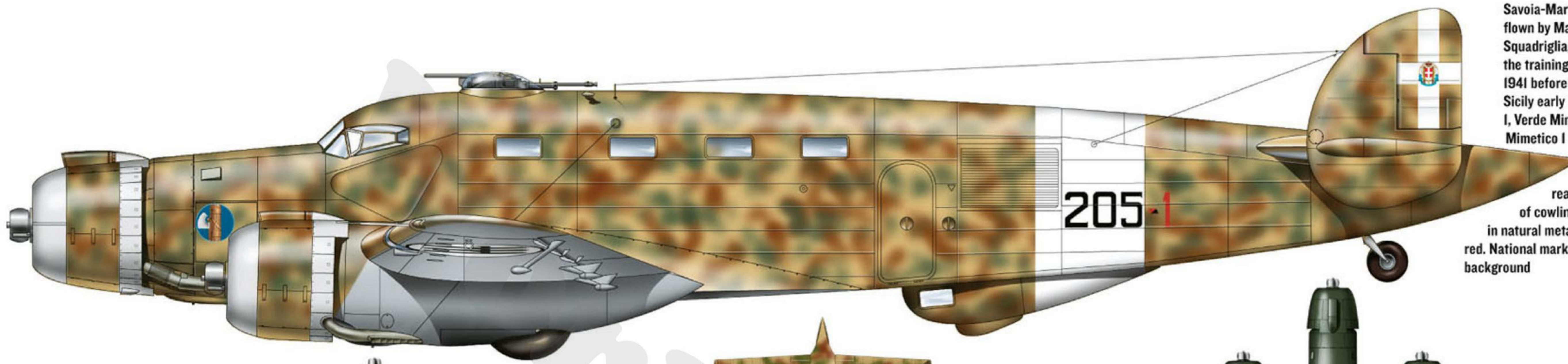
Features that distinguish this SM.84 as a 'bis' variant include the extended flame damping exhaust pipes, larger air intakes above engine cowlings and completely revised cabin framing. A uniform *Verde Oliva Scuro2* on all upper surfaces replaces the previous three-tone camouflage (R.J. Caruana Archives)

Savoia-Marchetti SM.84, 105-1, flown by Magg. Paolo Moci, 250^ Squadriglia, 47º Gruppo, during the training phase at Littoria in 1941 before the unit's transfer to Sicily early in 1942. Giallo Mimetico I, Verde Mimetico I and Marrone Mimetico I upper surfaces with Grigio Mimetico undersides; white rear fuselage band. Front of cowlings and cooling gills in natural metal; codes in black and red. National markings black on a white background

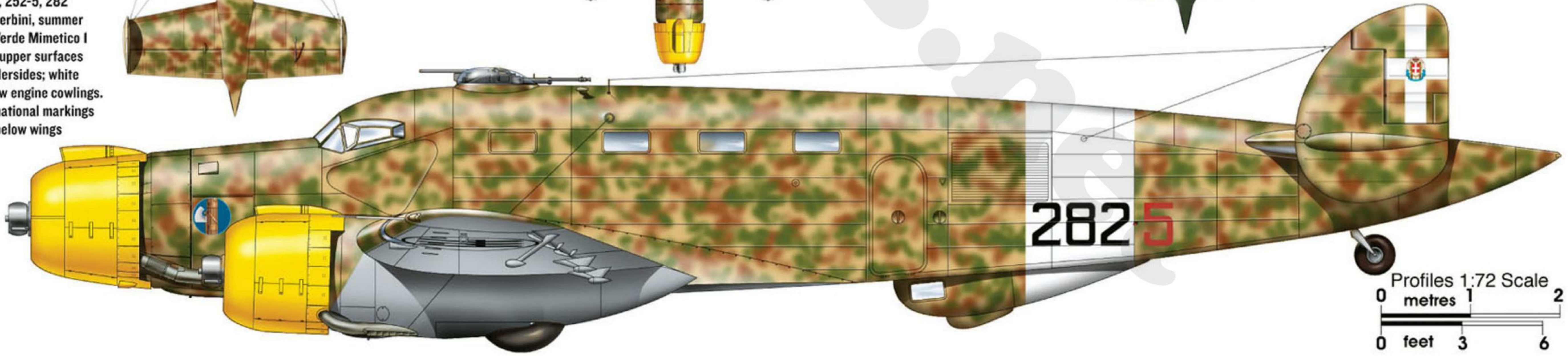



Early style national wing markings in black and white as per 205-1 above

Revised style of national markings in black only as per 282-5

Above: Finish and markings style for late production SM.84s in Verde Oliva Scuro 2 upper surfaces; undersides in Grigio Azzurro Chiaro I with markings as shown on the example in the middle

Savoia-Marchetti SM.84, 252-5, 282^ Squadriglia Autonoma, Gerbini, summer 1941. Giallo Mimetico I, Verde Mimetico I and Marrone Mimetico I upper surfaces with Grigio Mimetico undersides; white rear fuselage band, yellow engine cowlings. Codes in black and red; national markings in black only above and below wings



Savoia-Marchetti SM.84, 282-2, 282ª Squadriglia Autonoma A.S., Gerbini, September 1941. Uniform light grey overall (most probably Grigio Mimetico); white rear fuselage band toned down with same light grey. Codes in black and red; note absence of ventral gondola and rough over-painting of top colours, especially around the rudder crosses

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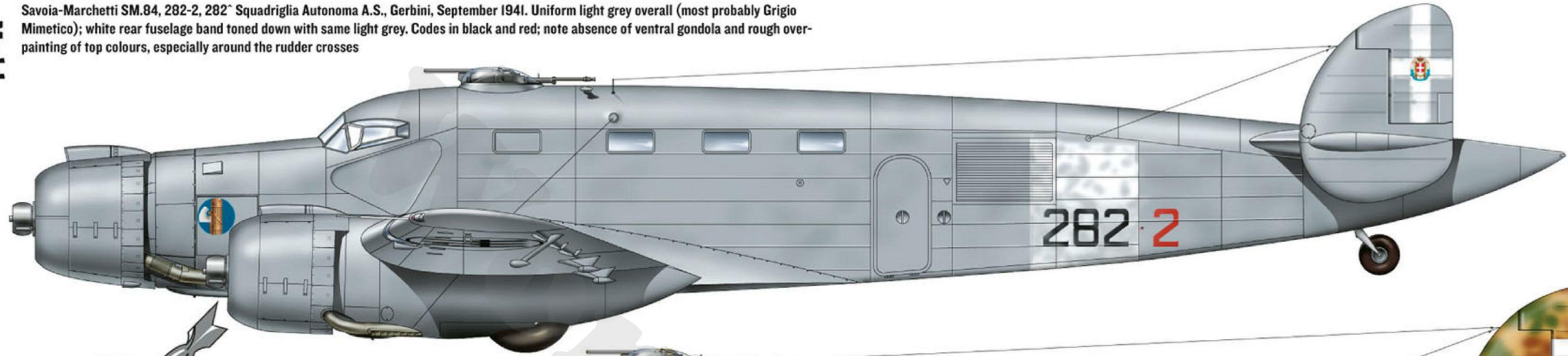
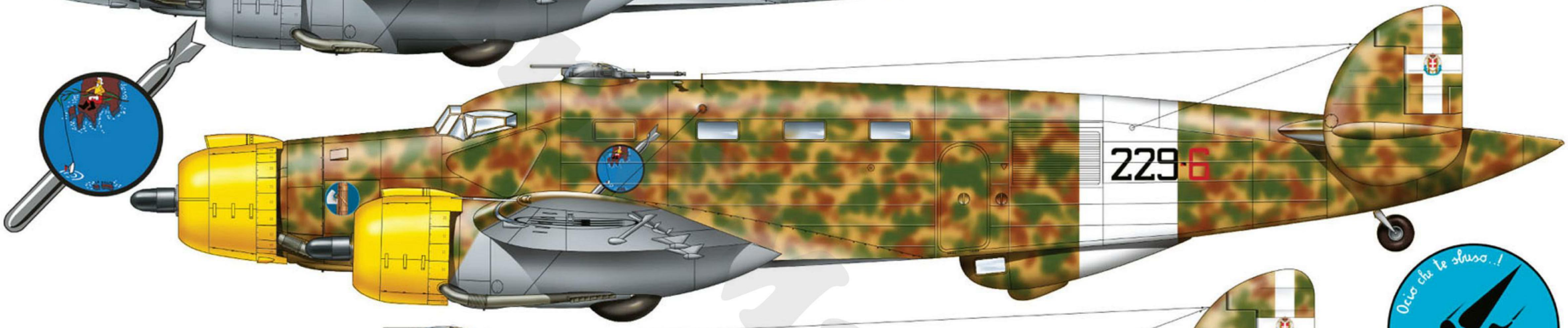
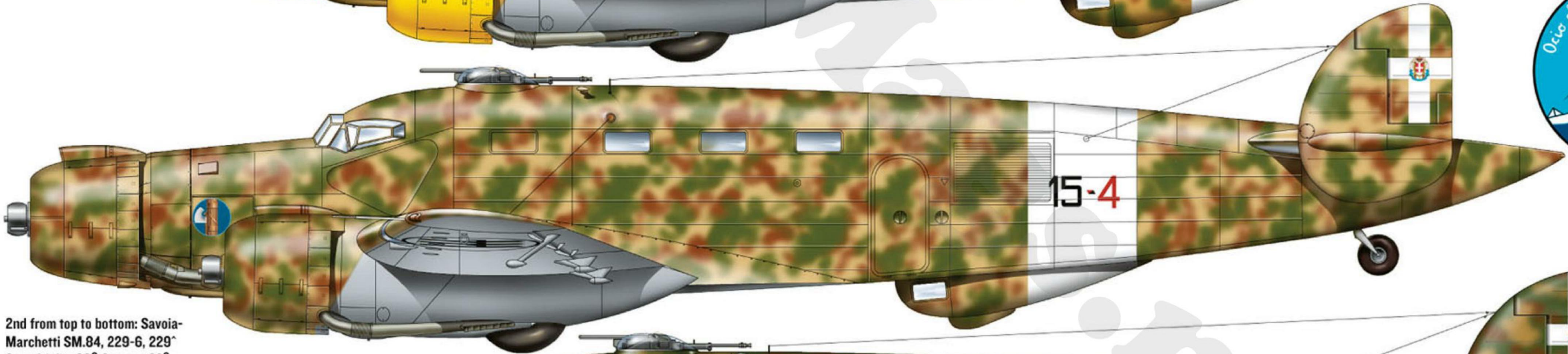
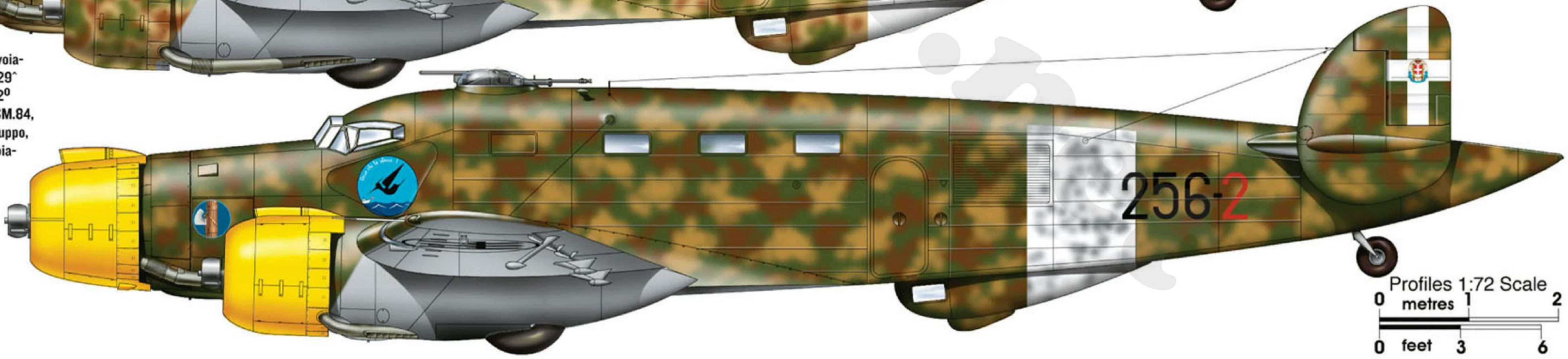


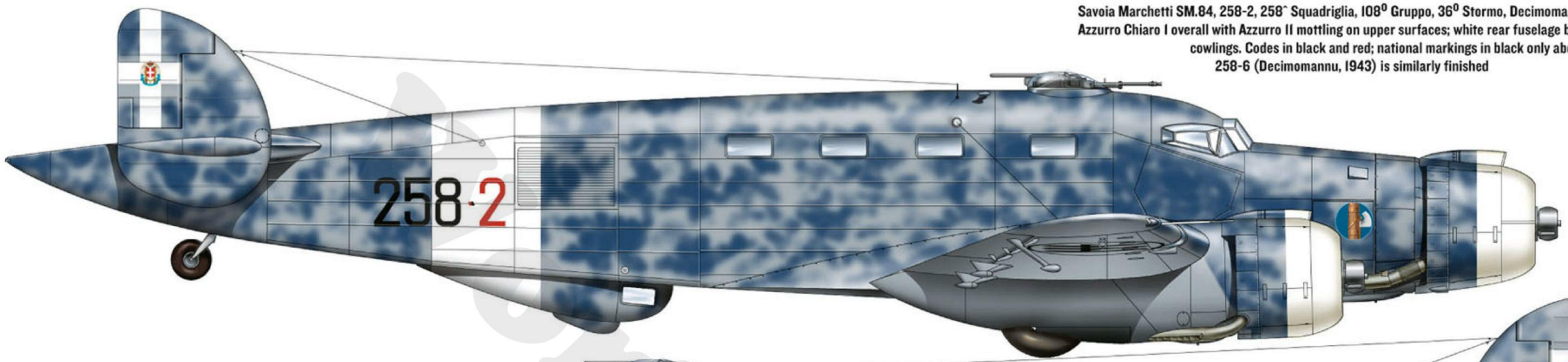


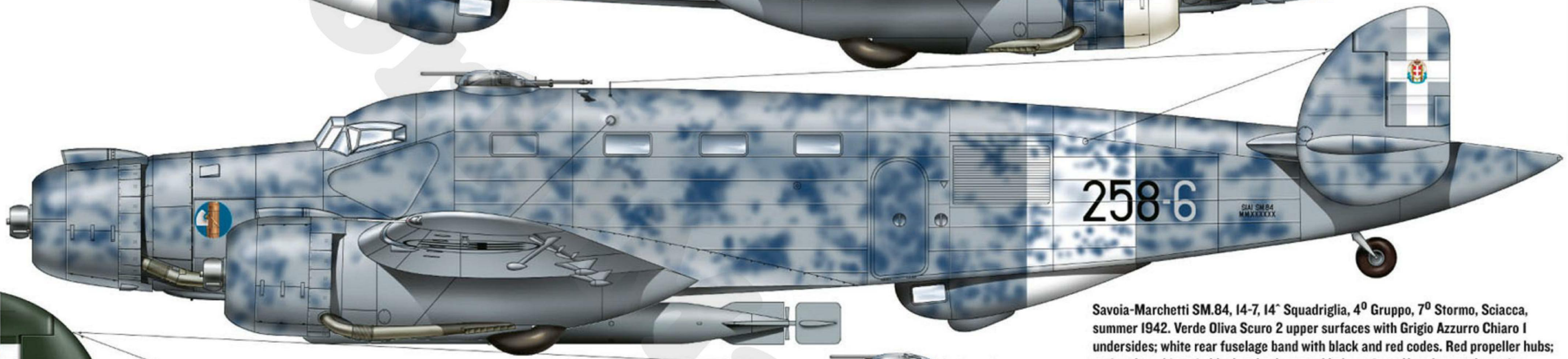




2nd from top to bottom: Savoia-Marchetti SM.84, 229-6, 229ª Squadriglia, 89° Gruppo, 32° Stormo; Savoia-Marchetti SM.84, 15-4, 15ª Squadriglia, 4° Gruppo, 7° Stormo, early 1942; Savoia-Marchetti SM.84, 256-2, 256ª Squadriglia, 108° Gruppo, 36° Stormo, Decimomannu, June 1942. All in the Mimetico series of colours (see page 1)

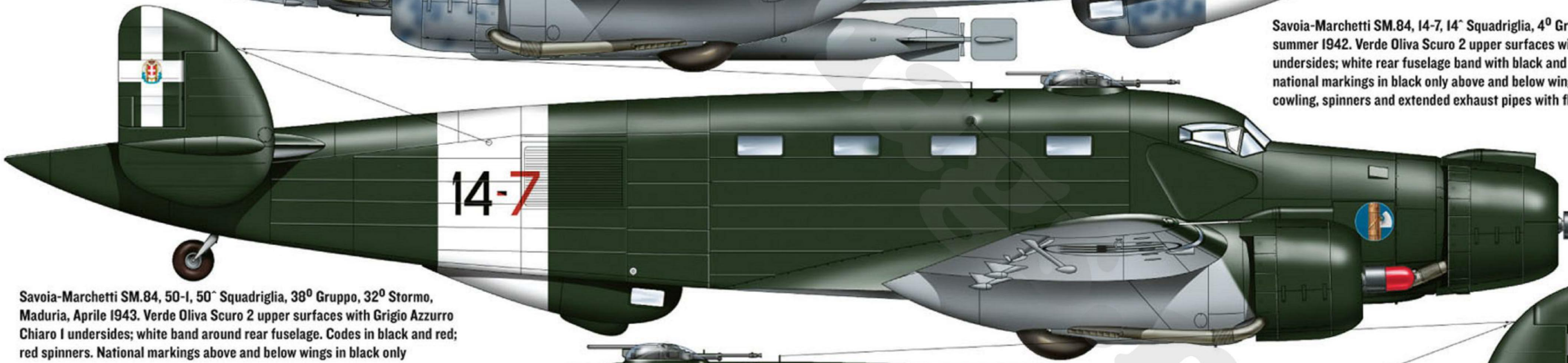
Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

Savoia Marchetti SM.84, 258-2, 258^ Squadriglia, 108⁰ Gruppo, 36⁰ Stormo, Decimomannu, 1942. Grigio Azzurro Chiaro 1 overall with Azzurro 11 mottling on upper surfaces; white rear fuselage band and front of cowlings. Codes in black and red; national markings in black only above and below wings. 258-6 (Decimomannu, 1943) is similarly finished




Savoia-Marchetti SM.84, 14-7, 14^ Squadriglia, 4⁰ Gruppo, 7⁰ Stormo, Sciacca, summer 1942. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro 1 undersides; white rear fuselage band with black and red codes. Red propeller hubs; national markings in black only above and below wings. Note late-style engine cowling, spinners and extended exhaust pipes with flame dampers

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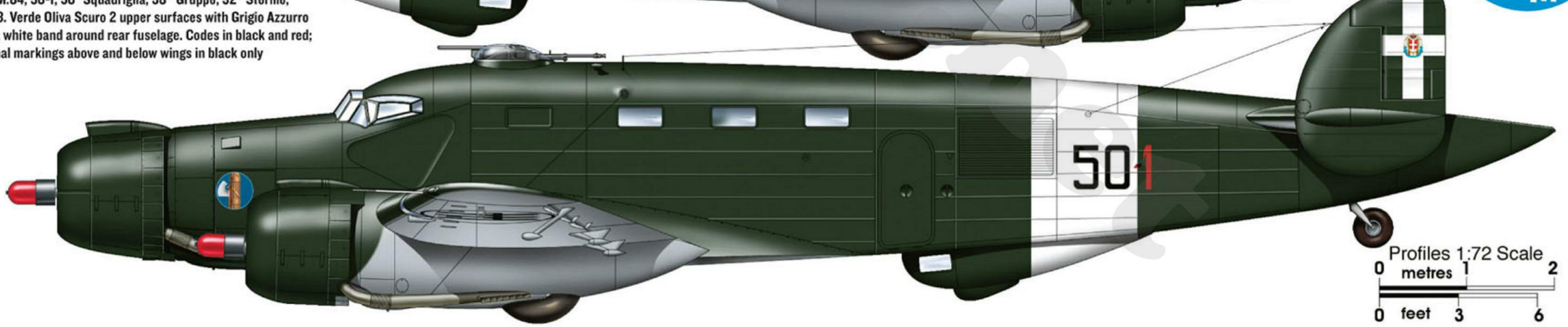
Savoia-Marchetti SM.84, 50-1, 50^ Squadriglia, 38⁰ Gruppo, 32⁰ Stormo, Maduria, Aprile 1943. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro 1 undersides; white band around rear fuselage. Codes in black and red; red spinners. National markings above and below wings in black only




Profiles 1:72 Scale
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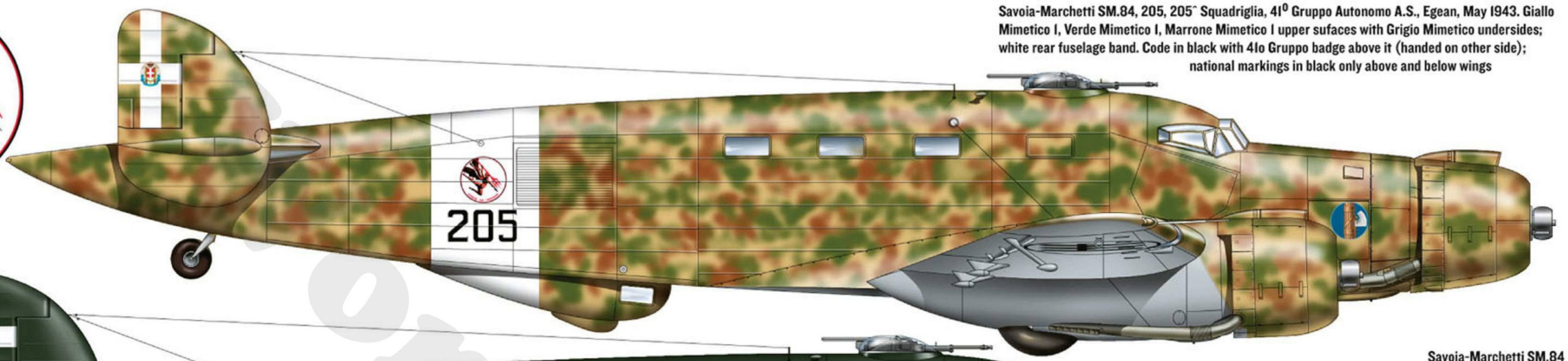
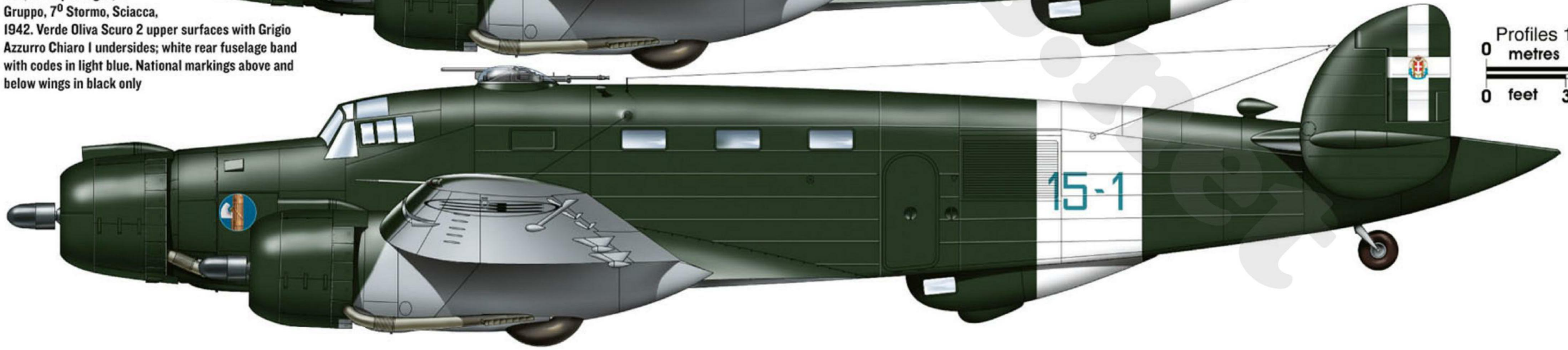


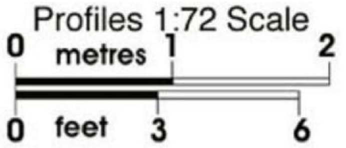

Savoia-Marchetti SM.84, 205, 205^ Squadriglia, 41^o Gruppo Autonomo A.S., Egean, May 1943. Giallo Mimetico 1, Verde Mimetico 1, Marrone Mimetico 1 upper sufaces with Grigio Mimetico undersides; white rear fuselage band. Code in black with 41o Gruppo badge above it (handed on other side); national markings in black only above and below wings

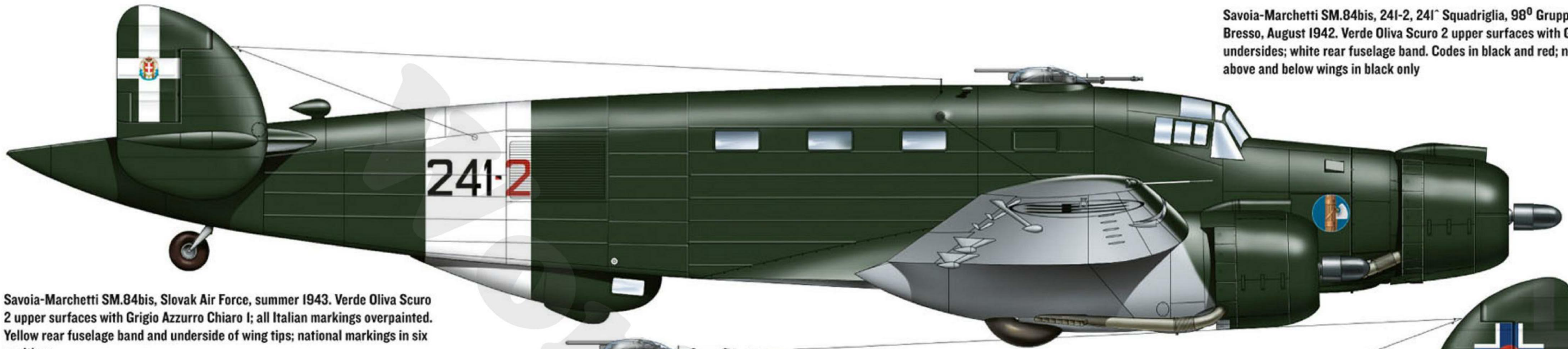
Savoia-Marchetti SM.84 (V Series), MM.22542, 15-6, 15^ Squadriglia, 4^o Gruppo, 7^o Stormo, Sciacca, 1942. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro 1 undersides; white rear fuselage band with codes in black and red

Savoia-Marchetti SM.84bis, 9-2, 9^ Squadriglia, 23^o Gruppo, 7^o Stormo, Cameri, spring 1942. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro 1 undersides; white rear fuselge band with codes in black and red. National markings in black only above and below wings

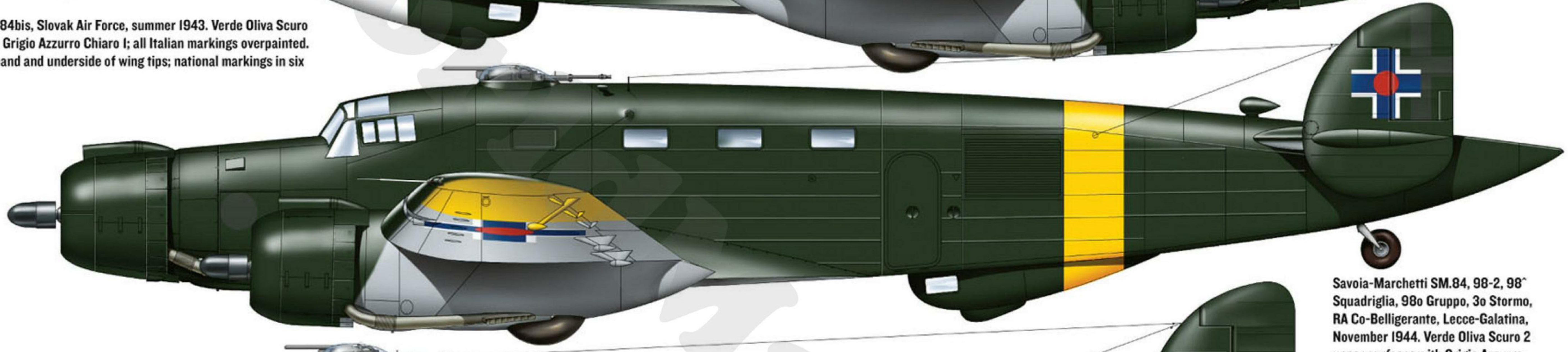
Savoia-Marchetti SM.84bis, 15-1, 15^ Squadriglia, 4^o Gruppo, 7^o Stormo, Sciacca, 1942. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro 1 undersides; white rear fuselage band with codes in light blue. National markings above and below wings in black only



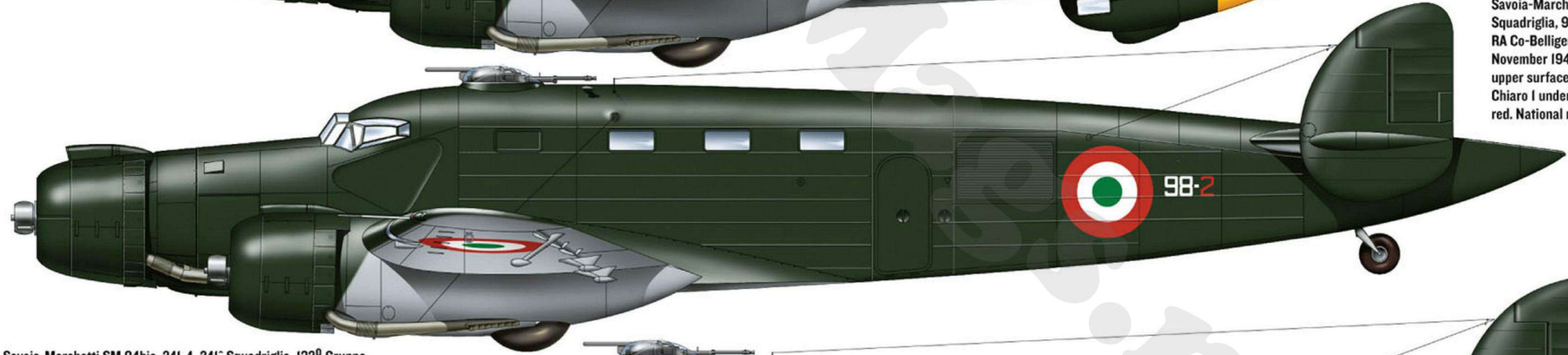





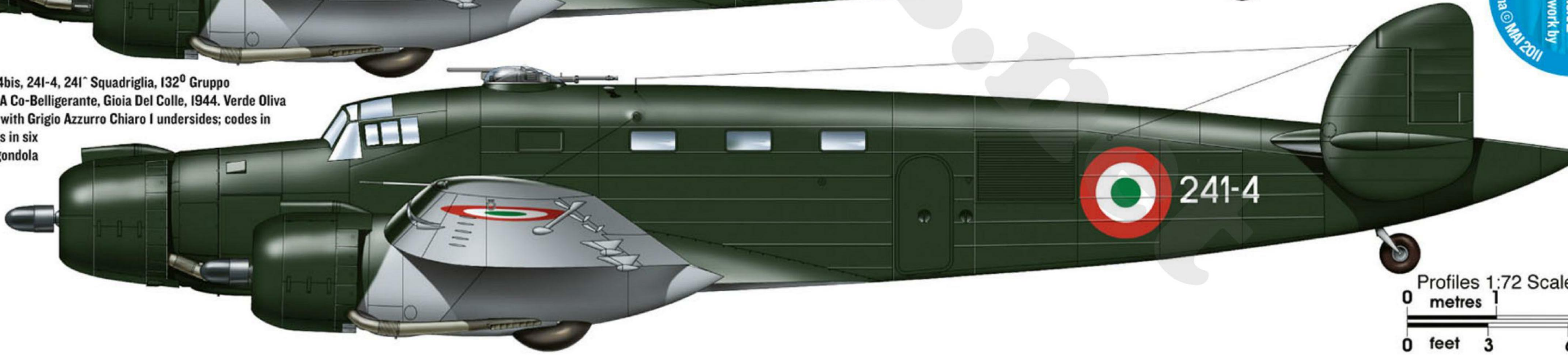

Savoia-Marchetti SM.84bis, 241-2, 241^ Squadriglia, 98⁰ Gruppo, 43⁰ Stormo, Bresso, August 1942. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro I undersides; white rear fuselage band. Codes in black and red; national markings above and below wings in black only



Savoia-Marchetti SM.84bis, Slovak Air Force, summer 1943. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro I; all Italian markings overpainted. Yellow rear fuselage band and underside of wing tips; national markings in six positions




Savoia-Marchetti SM.84, 98-2, 98^ Squadriglia, 98o Gruppo, 3o Stormo, RA Co-Belligerante, Lecce-Galatina, November 1944. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro I undersides; codes in white and red. National markings in six positions




Savoia-Marchetti SM.84bis, 241-4, 241^ Squadriglia, 132⁰ Gruppo Trasporto, 2⁰ Stormo, RA Co-Belligerante, Gioia Del Colle, 1944. Verde Oliva Scuro 2 upper surfaces with Grigio Azzurro Chiaro I undersides; codes in white. National markings in six positions; note ventral gondola has been removed

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Profiles 1:72 Scale
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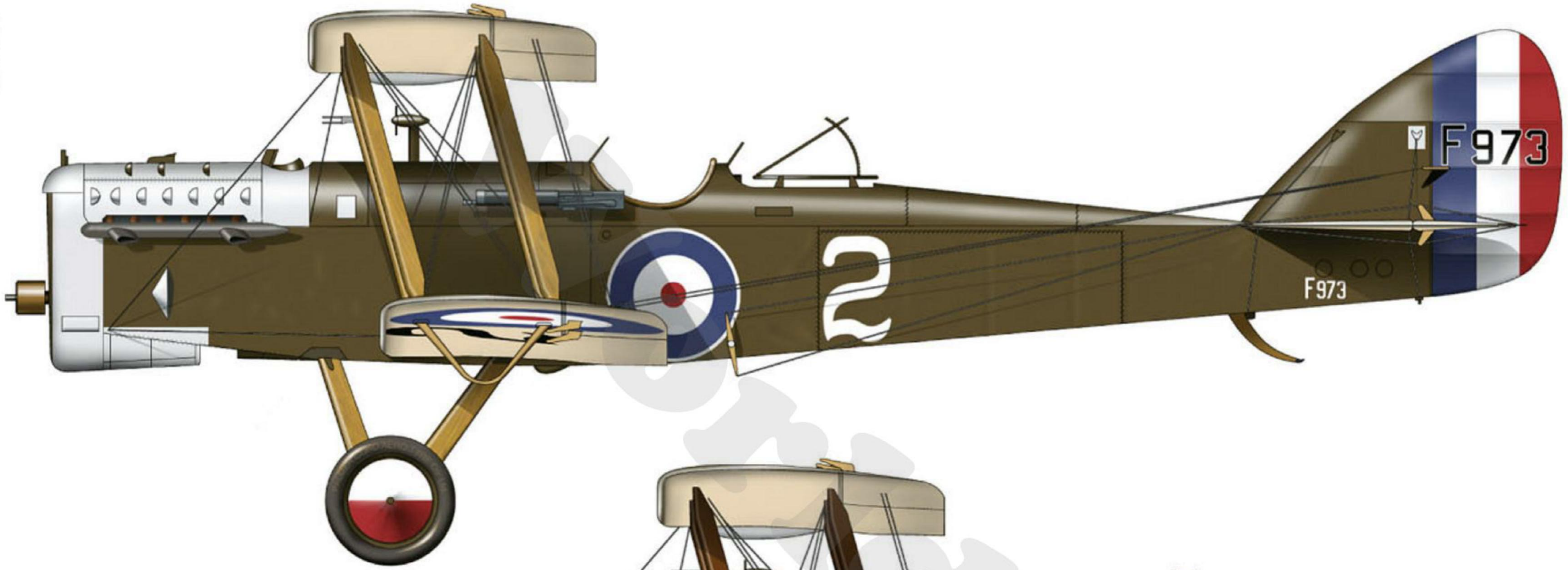


Airco D.H.9A, P973, '2', No.1 School of Navigation and Bomb Dropping RAF, 1918. PC10 overall with clear-doped lower surfaces of wings and tailplane; engine cowlings are natural metal. Red/white wheel covers; white '2' on fuselage sides, repeated in black below lower wings

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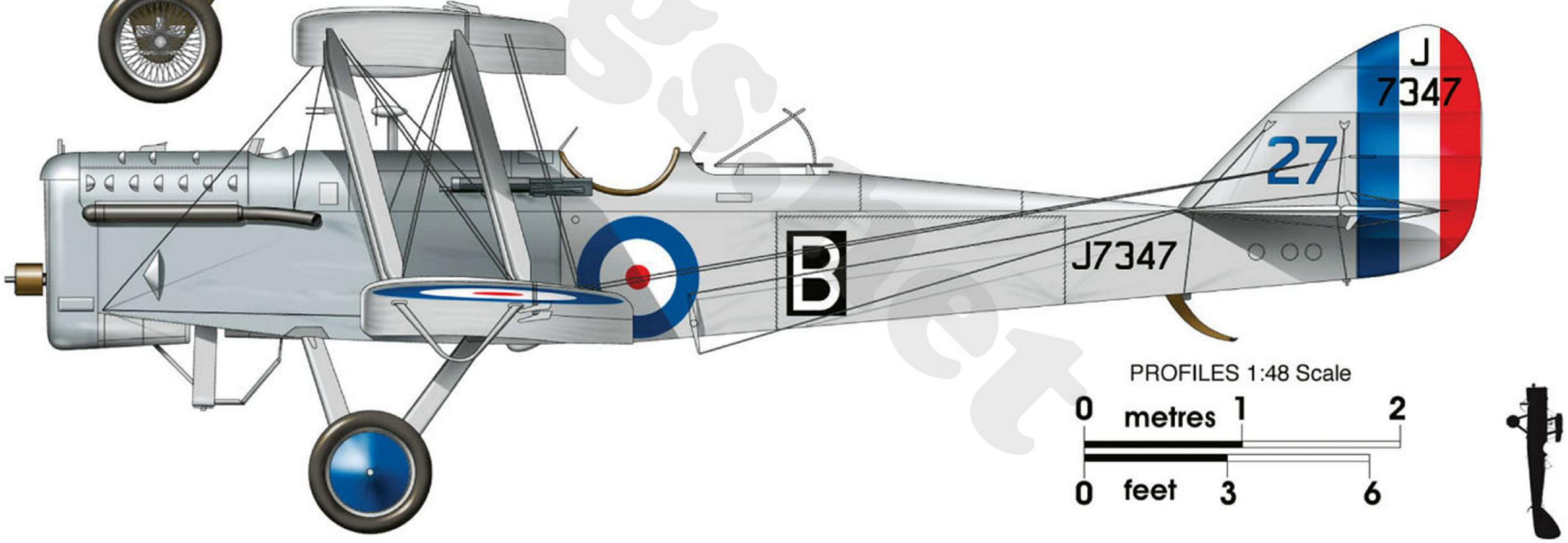
Airco D.H.9A, H3627, 'CII', 'C' Flight, No.55 Squadron RAF, 1922. PC.10 upper surfaces with clear doped undersides of wings and tailplane; natural metal engine cowlings. Fuselage band, fin and radiator shutters in blue and white checks

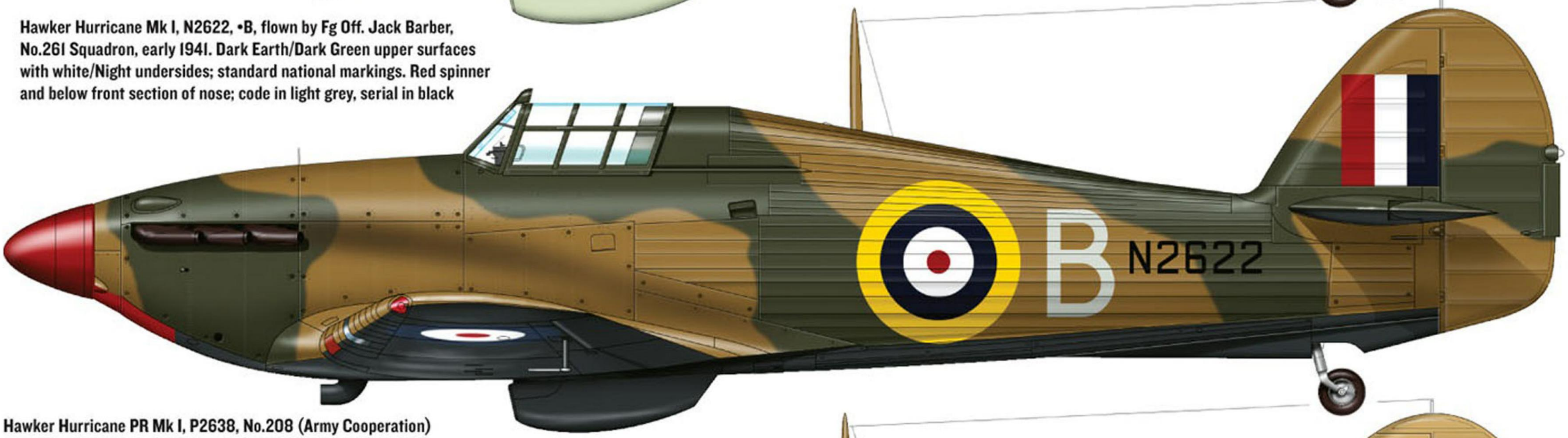



Airco D.H.9A, J7347, '27', No.27 Squadron, No.2 India Wing, 1925. Silver doped overall with grey engine cowlings and front fuselage panels; blue wheel covers and '27' on fin, the latter outlined in black. Serial in black; white 'B' on blue rectangle on fuselage sides

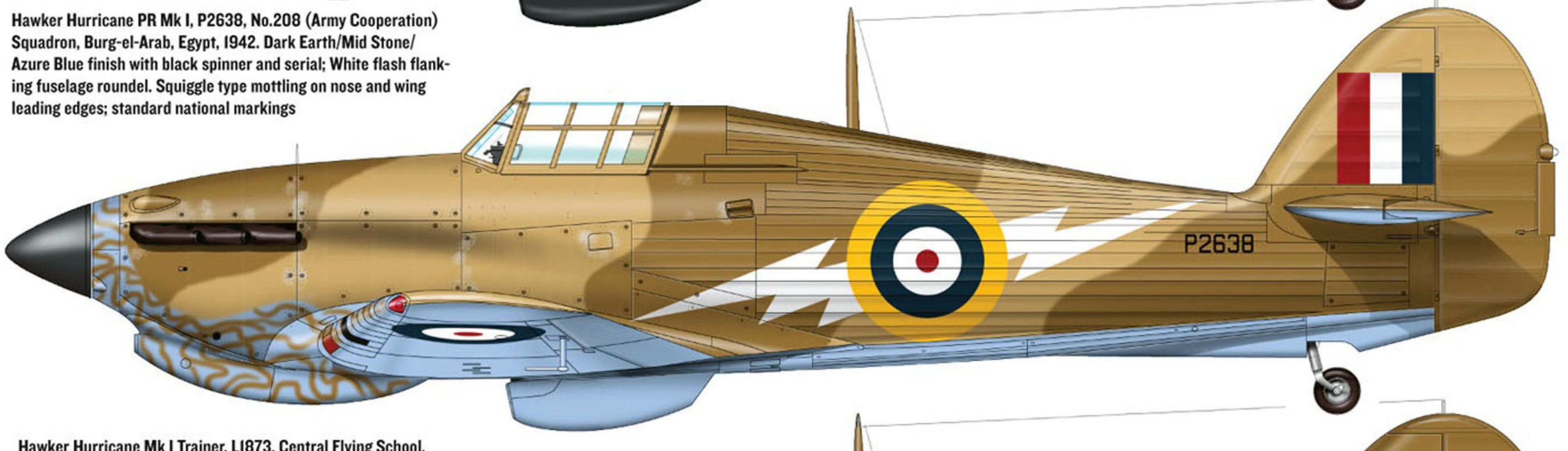
Hawker Hurricane Mk I, P3712, ZJ•J, No.96 Squadron, Cranage, 1941. Night overall with codes in Medium Sea Grey and serial in Ident Red; Type 'AI' roundels on fuselage sides, Type 'B' above wings (none below)

Hawker Hurricane Mk I, VZ118, UZ[a]V, No.306 (Polish) Squadron, November 1940. Dark Earth/Dark Green/Sky finish with Night spinner and serial; Medium Sea Grey codes

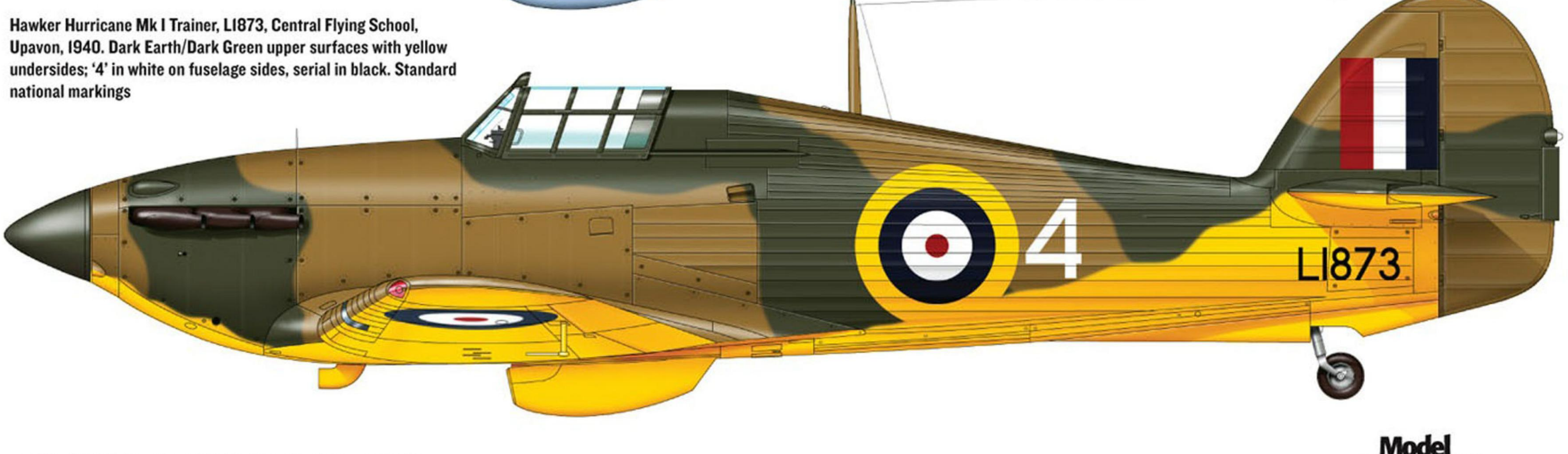
Hawker Hurricane Mk I, N2622, •B, flown by Fg Off. Jack Barber, No.261 Squadron, early 1941. Dark Earth/Dark Green upper surfaces with white/Night undersides; standard national markings. Red spinner and below front section of nose; code in light grey, serial in black




Hawker Hurricane PR Mk I, P2638, No.208 (Army Cooperation) Squadron, Burg-el-Arab, Egypt, 1942. Dark Earth/Mid Stone/ Azure Blue finish with black spinner and serial; White flash flanking fuselage roundel. Squiggle type mottling on nose and wing leading edges; standard national markings




Hawker Hurricane Mk I Trainer, L1873, Central Flying School, Upavon, 1940. Dark Earth/Dark Green upper surfaces with yellow undersides; '4' in white on fuselage sides, serial in black. Standard national markings





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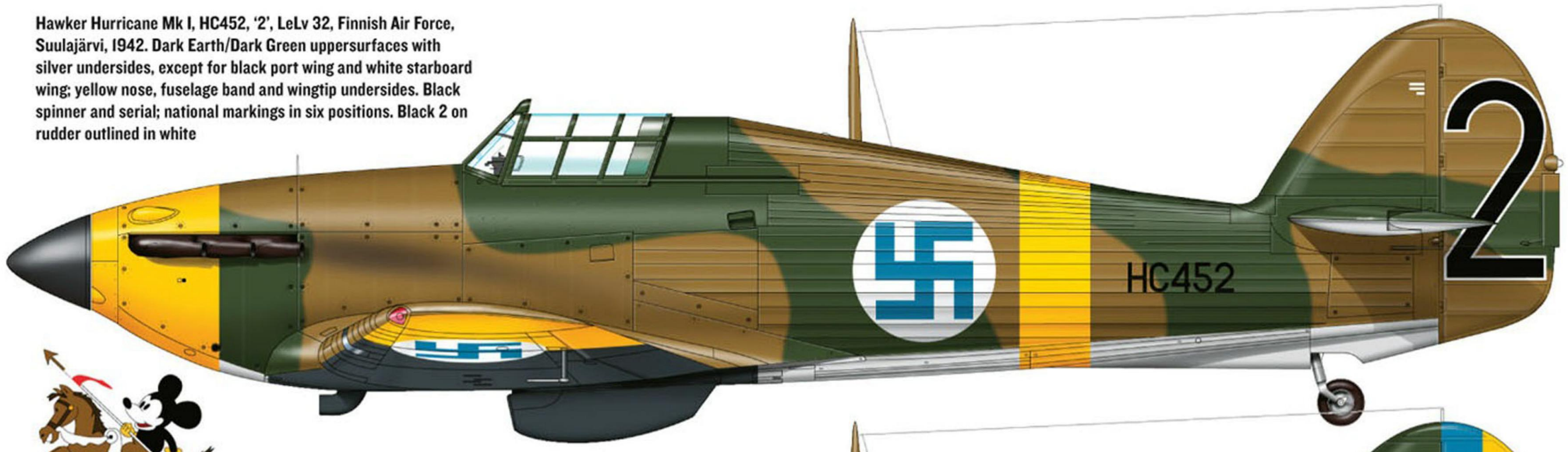
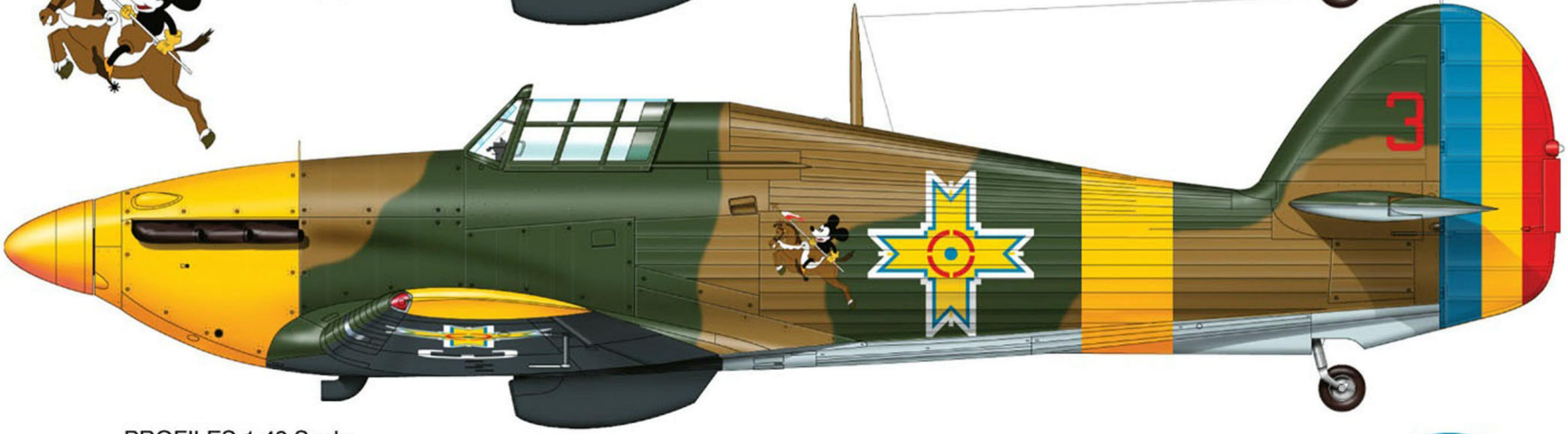
Hawker Hurricane Mk I, HC452, '2', LeLv 32, Finnish Air Force, Suulajärvi, 1942. Dark Earth/Dark Green uppersurfaces with silver undersides, except for black port wing and white starboard wing; yellow nose, fuselage band and wingtip undersides. Black spinner and serial; national markings in six positions. Black 2 on rudder outlined in white




PROFILES 1:48 Scale

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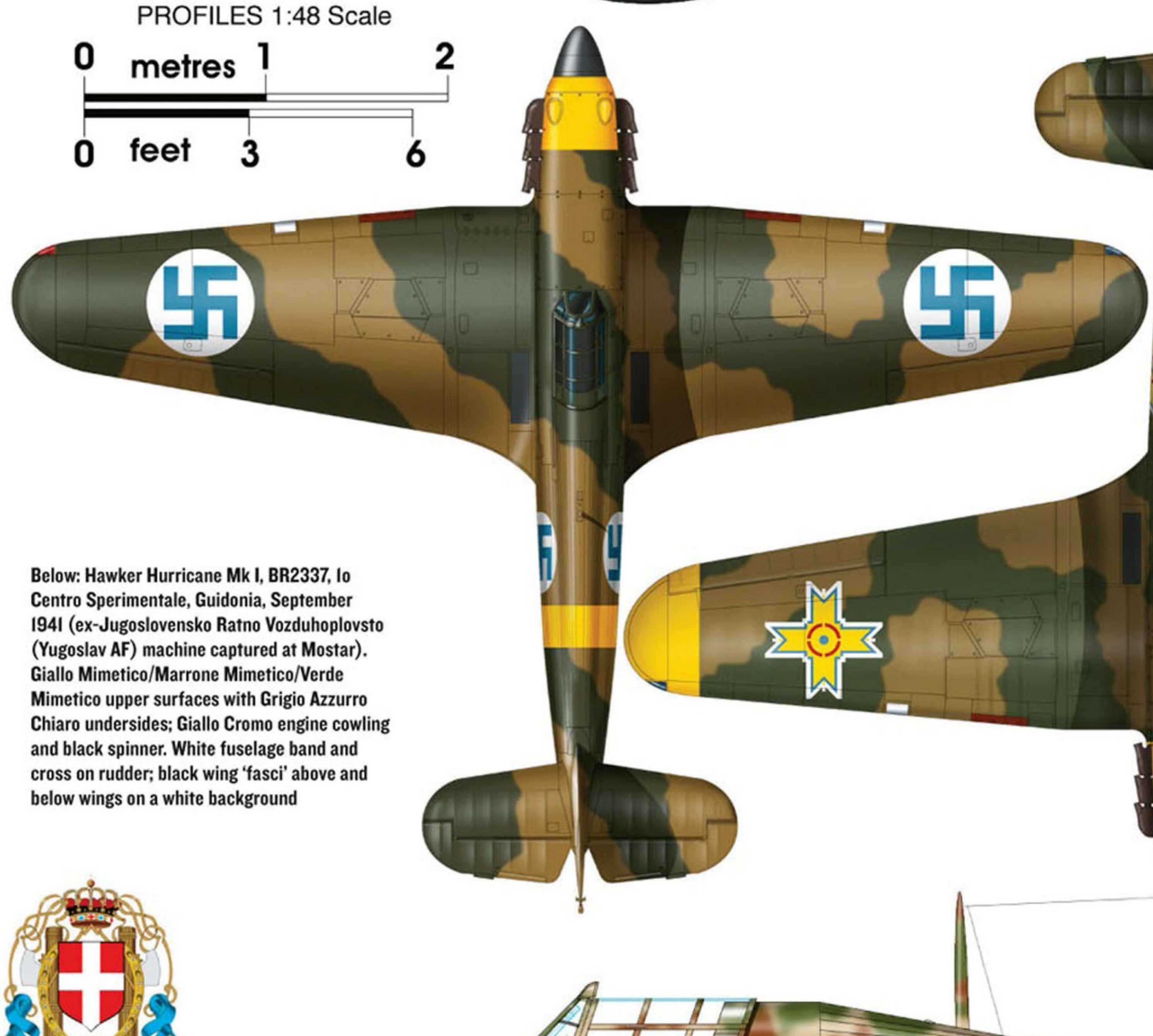
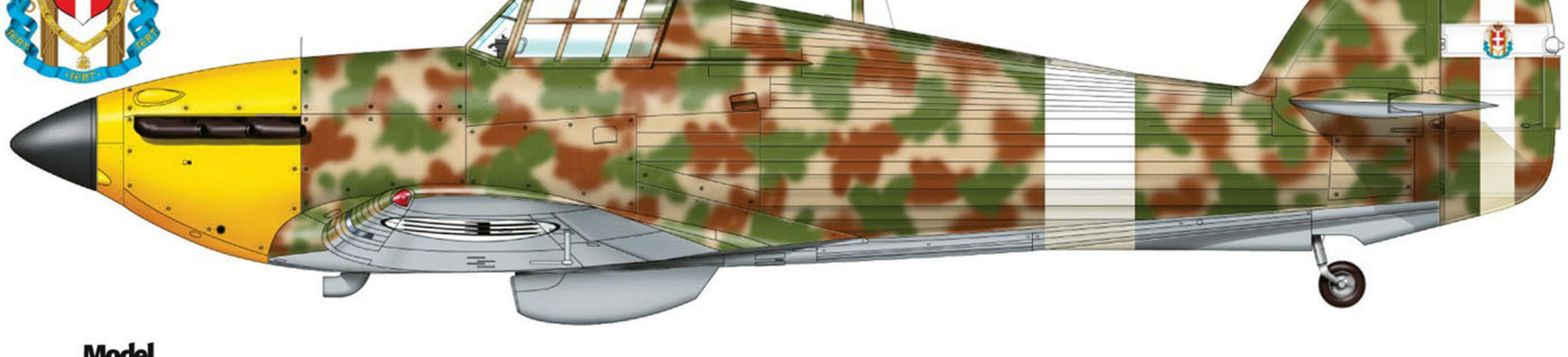


Above & Left: Hawker Hurricane Mk I, '3', Escadrila 53 Rumanian Air Force, flown by Horia Agarici, June 1941. Dark Earth/Dark Green uppersurfaces with Night/white undersides of wings and the rest in Sky Blue; Yellow nose, fuselage band and wingtips. National markings in six positions; code '3' in red on fin. Note unit marking

Below: Hawker Hurricane Mk I, BR2337, Io Centro Sperimentale, Guidonia, September 1941 (ex-Jugoslovensko Ratno Vozduhoplovsto (Yugoslav AF) machine captured at Mostar). Giallo Mimetico/Marrone Mimetico/Verde Mimetico upper surfaces with Grigio Azzurro Chiaro undersides; Giallo Cromo engine cowling and black spinner. White fuselage band and cross on rudder; black wing 'fasci' above and below wings on a white background



# INTRUDER AND PROWLER FROM THE IRON WORKS

A-6E Intruder, BuNo.158533, AG/502 of VA-65 'Tigers' displaying its highly colourful red/black trim; note that as standard with US Navy aircraft of the period, moveable control surfaces were not covered in the top Light Gull Grey but remained white. Yellow/cream leading edges to wings, tailplane and fin can also be noticed on a number of aircraft (Grumman Aerospace Corporation)

The A-6 Intruder and its two-seat derivative the AE-6 Prowler have been protagonists of US Navy and Marine Corps aviation serving from the dense Vietnamese jungles to the troubled Persian Gulf. The A-6 continued to prove well into the late 1990s that it was the primary US carrier-borne bomber and all-weather day/night strike aircraft and one of the prime punitive instruments at the disposal of US foreign policy objectives. Meanwhile the Prowler is still pretty active and an asset US naval forces cannot seem to do without.

Known as the A2F before 1962, the A-6 Intruder owes its origin to a 1956 US Navy request for a system able to navigate and deliver ordnance with exceptional accuracy aided by on-board computers and high-technology hardware. The 1950-53 Korean conflict had exposed the need to attack targets with great precision in all types of weather, by day and by night. The US Navy's choice fell on Grumman's Model 128 on 31 December 1957 out of eight contenders and eleven designs submitted.

By April 15, 1960 the prototype (BuNo 147864) was complete, and rather than wait till the end of the month for its official roll-out, it was taken up for its first flight five days later. Official acceptance trials began in November 1962 at the Patuxent River Naval Air Test Centre in Maryland. The first A-6s were delivered on 7 February 1963 when two A-6As joined VA-42 'Green Pawns', the East Coast Fleet Readiness Squadron (ex-Replacement Air Group) at NAS Oceana, Virginia. This training conducted within the East and West Coast Squadrons coincided with the American build-up of the Vietnam conflict; so it came as no surprise that the A-6 was rushed into that theatre.

The first squadron to launch the Intruder into operational service was VA-75 'Sunday Punchers' who were also the first to see action in Vietnam. By March 1965, VA-75 was embarked on USS Independence (CV-62) to participate in 'Rolling Thunder' – the sustained aerial bombing of North Vietnam.

The Intruder's Navigation and Weapons Delivery System (NWDS), which was the basic design on which the aircraft was developed, proved to be modest for its time and the aerodynamics of the airframe were conventional. The aircraft was largely of aluminium construction except for the lower half, where a beam of steel and titanium was used between the engines and the non-structural doors that surrounded the engine bay. The two Pratt & Whitney J-52 turbojets, set low under the fuselage in conformal pods, allowed for the provision of large fuel tanks on the centre structure, thus extending the aircraft's combat radius. These engines were of the continuous flow, non-afterburning gas turbine type with a take-off power of 9,300lb thrust with a specific fuel consumption of 0.86lb/hr/lb thrust. A very unusual feature for this engine incorporated into the initial design of the Intruder was the inclusion of vectored exhaust pipes which, when tilted down in conjunction with leading edge slats and trailing edge flaps, gave the aircraft quite an effective STOL performance. For some reason – probably due to its complexity – this feature was not built into production machines (after the 7th example off the line).

To ensure adequate static and fatigue strength, the A-6 incorporated proven methods of construction. The wing was divided into five major sub-assemblies: centre section and left and right hand inner and outer panels. The centre section has a continuous box beam passing through the fuselage; the left and right hand inner panels were spliced to the centre section. All five assemblies had integral fuel tanks. Speed brakes were located on the wing tips.

The inner and outer panels were built of multi-beam construction with machine-sculptured top skin panels attached to the beam flanges, and an integrally stiffened lower skin was attached to the vertical webs of the beams through the integral stiffeners. This type of construction was practically identical to that of the well-proven F-11F Tiger fighter from the same stable. Each wing fold joint consisted of four separate pairs of steel hinge fittings. Four hydraulically driven lock pins on the lower surface were mechanically interconnected by a lock-lock system. Conventional semi-monocoque construction was used for the fuselage except in the lower half where a deep structural keel beam was used between the engines and the non-structural doors that enclose the engine compartment. The basic fuselage shell was of aluminium alloy, sheet stringer construction. Because of the high temperatures encountered in the engine and exhaust pipe areas, the keel beam was fabricated from high-strength steel and titanium sheet to provide a maximum strength-to-weight ratio. Aluminium honeycomb panels were used for structural covers over the three large fuselage fuel cells. Also used for structural purposes was the 0.5in aluminium armour on the forward fuselage bulkhead and cockpit floor.

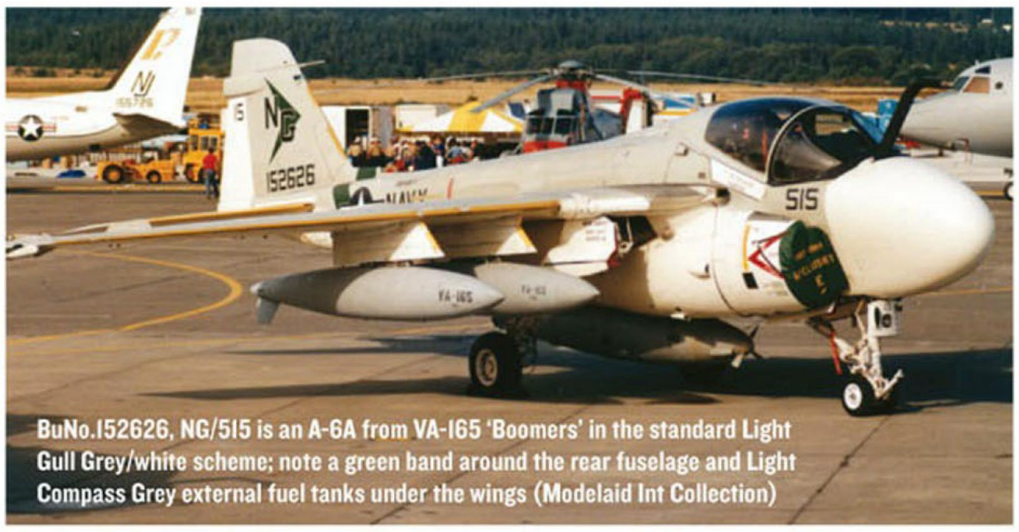
The horizontal slab stabilizer was of multi-beam construction and aluminium honeycomb trailing edge while rudder, flaps and slats had a conventional type of leading edge and an aluminium honeycomb trailing edge. Electronic gadgetry of the Intruder was delivered in an overall package known as DIANE (Digital, Integrated Attack and Navigation Equipment) which provided fully automatic navigation and weapons delivery and computerised handling of every aspect of the attack mission supervised by the bombardier-navigator (BN). Primarily this system involved the integration of data from three major sources: the KU-band Norden APQ-92 search radar, the Ku-band Norden APQ-88 (later 112) track radar and the Litton ASN-31 inertial navigation system (INS). While these systems took care of the Intruder's heading, speed and altitude information, weapons delivery depended on the Litton ASQ-61 digital computer. All this information was relayed and coordinated in the Intruder's spacious cockpit which afforded excellent visibility to the two-man crew, who sat side by side (the pilot's seat being, in fact, 5in higher and 3in forward of the BN's). An in-flight refuelling probe was located ahead of the windscreen.

VA-75 was the first to launch strikes against North Vietnamese targets on 1 July 1965. The first A-6A targets were bridges although a night strike on a heavily defended power plant in Thanh Hoa, 80 miles from Hanoi, was recognised as a major achievement. The target was located by radar and therefore industrial and transportation centres were exposed to night bombings. Intruder missions in North Vietnam were conducted in a Lo-Hi-Lo profile with the aircraft travelling at an altitude of five hundred feet on their way to the target and popping up to around five thousand feet during bombing. The A-6A carried no defensive gun armament; its best defence against enemy interceptors, therefore, was its terrain-hugging and all-weather capability.

The first A-6A loss was registered in Laos on 14 July 1965 when an aircraft was hit by AA fire. In all, 51 Intruders were lost in combat operations and 12 were claimed by operational accidents. After the war an embarrassing fact (for the USAF) came to light: the Intruder proved to be the sole night attack aircraft of the conflict and the dominant warplane during daytime strikes in bad weather.

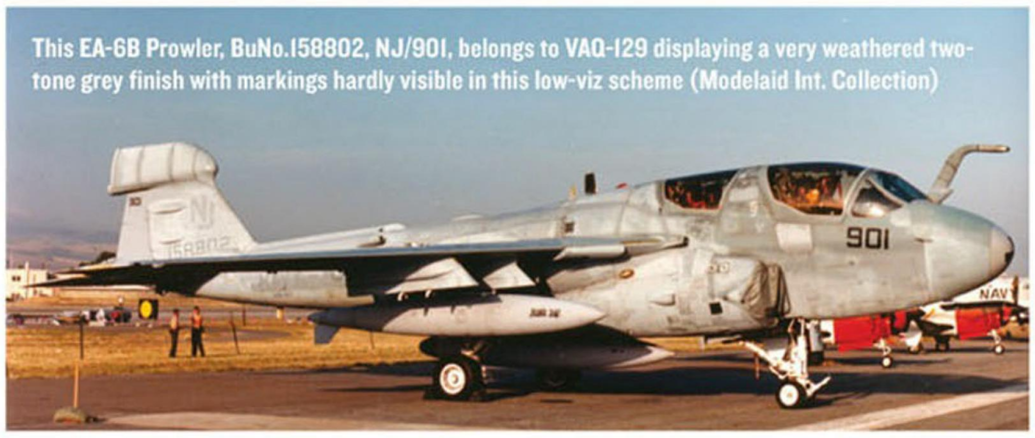
This was one of the reasons why the US Marines pushed forward their requirement of the Intruder in preference to the A-7 Corsair to strike at Vietcong targets in South Vietnam. Operating almost exclusively by night with loads of 28,500lb or five 2,000lb bombs, the Marines lost sixteen Intruders in combat plus four operational losses, and a further two were lost to separate Vietcong mortar attacks on Da Nang airfield.

The importance of the Intruder as a principal tool of US national policy in crisis situations was boosted during President Reagan's tenure of office. The predominant use of Intruders during that administration has often been attributed to the influence of Navy Secretary John




BuNo.152626, NG/515 is an A-6A from VA-165 'Boomers' in the standard Light Gull Grey/white scheme; note a green band around the rear fuselage and Light Compass Grey external fuel tanks under the wings (Modelaid Int Collection)

NK-505 from VA-196 is a Grumman A-6E TRAM finished in the later scheme of Compass Grey (FS.36320) Light Compass Grey (FS.36375) with low visibility markings. Taken at Widby Island, September 1989 (Modelaid Int. Collection)



This EA-6B Prowler, BuNo.158802, NJ/901, belongs to VAQ-129 displaying a very weathered two-tone grey finish with markings hardly visible in this low-viz scheme (Modelaid Int. Collection)

Lehman, a fully- qualified Reservist BN on the A-6E. Another bombardier-navigator, Lt Cdr Tom Patterson, is quoted to have said that: "Having a BN in the Secretary's office in the Pentagon is a tremendous boost to the Intruder community".

Intruders were first catapulted into such actions in 'Operation Urgent Fury' – the invasion of Grenada between 24 and 27 October 1983. Incidentally this strike was launched from USS Independence (CV-62), the carrier that had first launched VA-75 Intruders in anger in South East Asia, with the difference that it was the turn of the 'Huntsmen' of VA-176 with ten A-6Es and four KA-6Ds to go into action. Although VA-176 flew some support strikes in good weather, its seems that they were not really vital to the operation. What the crew of VA-I 76 did not know was that on the same cruise they were destined to participate in another conflict.

On that occasion the backdrop was the Mediterranean and the targets were terrorist positions in the much publicised Bekaa Valley. 'Indy' steamed East from Grenada to join USS John F Kennedy (JFK) in Bagel Station, supporting US forces stationed in Lebanon. A reprisal attack was ordered on 4 December 1983. Intruders A-6E and A-7E Corsairs II from Independence, together with A-6Es of VA-85 'Black Ravens' from JFK made up the 28-plane 'Alpha Strike' force. An Intruder was shot down with the loss of its pilot while the BN bailed out, was caught and held prisoner. Rev. Jesse Jackson, a front-runner for the Democrat's presidential ticket in the US 1988 elections, later secured the release of the downed navigator. The loss of this Intruder, together with a Corsair II, was seen as a sign of weakness and lack of combat readiness against sophisticated defences that included SA-5 long-range and SA-6 mobile anti-aircraft missiles.

Retaliations against terrorist-related targets in Libya brought the Intruder back into action. The first of five separate actions took place on 24 March 1986 when carrier-aircraft were fired upon by long-range SA-5 missiles. Intruder A-6Es of VA-55 'Warhorses' aboard USS Coral Sea (CV-43) used the AGM-84A Harpoon air-to-surface missile in combat for the first time. Coral Sea's Intruders destroyed the Libyan patrol vessel 'Nanutchka' near Misratah. A-6s were widely used in 'Operation El Dorado Canyon' on 15 April 1986. A-6Es from VA-34 'Blue Blasters' aboard USS America (CV-66) attacked Benghazi's Benina airfield. At the same time A-6Es and A-7Es from America joined forces with EA-6Bs, A-6Es and F/A-18As from 'Coral Sea' to hit targets in Benghazi. A barrage of Surface-to-Air missiles (SAM) and AA artillery was encountered but the strikes were executed with precision and without loss of aircraft. The Benghazi strikes were conducted in co-ordination with bombing in Tripoli by the USAF's 48 TFW F-111Es based at RAF Lakenheath.

Other Intruder adventures took place in the Persian Gulf during the later part of the Iran-Iraq war. When Samuel B. Roberts (FFG-58) struck a mine in international waters on April 14, 1988, it wasn't hard to guess who the culprits were. Other mines bearing Iranian markings were found, and authorisation came down for retaliation. Just four days after the mine incident the US Navy delivered a ten-hour message that the Ayatollah's acolytes could not ignore. Iranian oil platforms, patrol boats, frigates and other small attack craft were hit and sunk. All the aircraft involved came from CVW-11/NH on board USS Enterprise (CVN-65) operating in the Indian Ocean. The 'Green Lizards' of VA-95 with their A-6Es were launched with an array of Harpoon, Skipper II, Laser Guided Bombs (LGBs) and Rockeye weapons. Iranian frigates were reported to have shot at the Intruders when the latter sank one Saam-class frigate, immobilised another and shredded two Boghammer attack craft. At a time when Iran was losing the war with Iraq on all fronts, the demolition of the major part of its Navy in a matter of hours was a severe blow. In fact it was not very long before Iran faltered and had to settle for a cease-fire.

The Intruder's involvement in this theatre was to see an ironic twist of events some two years later. While in 1988 it had helped – though indirectly – Iraq settle its score with Iran, it was now one of the protagonists of a formidable force assembled to liberate Kuwait. The US Navy's involvement in Operation Desert Storm included A-6Es of VA-196 from VAQ-139 on board USS 'Independence', of VA-34 on Dwight D. Eisenhower, of VA-35 on 'Saratoga', VA-75 on John F. Kennedy, VA-115 on Midway, VA-145 on Ranger, VA-85 on America and VA-36 of Theodore Roosevelt. To these one must add the A-6Es of VMA(AW)-224 of the US Marine Corps ,among the first to be deployed in the Gulf operating from land bases. From the very first bouts the A-6Es of the US Navy were heavily involved, supported by F-14 Tomcats and EA-6B Prowlers. The Intruder had also the distinction of introducing the AGM-84E SLAM into service, four such weapons being the normal combat load for a mission. However, the four A-6s lost during that short campaign were also the highest of any type for the US Navy, a testimonial to the difficult missions the Intruder was asked to perform.

The last of 185 newly-built A-6Es were planned to be delivered by August 1989. The planned A-6F programme, which would have resulted in the production of some 300 examples of the new version, was cancelled as a result of Defence cuts in the 1990 US Defence Budget introduced by President Bush. Its replacement in service was supposed to be the A-12 Advanced Tactical Aircraft (ATA) Avenger II which was cancelled due to escalating development costs. Originally replaced for a short while by the LANTIRN equipped F-14 Tomcat its duties were eventually taken over by the F/A-18E/F Super Hornet and the last Intruders were retired at the end of February 1997.

Based on the Intruder airframe, Grumman produced an electronic warfare version designated EA-6B Prowler, which entered service in 1961 and continues to provide sterling service in its role. Crew of the Prowler now consisted of a pilot and three Electronic Countermeasures Officers. Versions of the 'electronic' A-6 began when two early production A-6A Intruders were converted to EA-6A configuration as prototypes, with the first taking to the air on 26 April 1963. The EA-6A, originally referred to as the 'Electric Intruder' was developed primarily for the US Marine Corps as a replacement for the ageing EF-10B Skynight. It retained the two-seat configuration but was externally recognisable from the large fairing on top of the vertical tail surfaces housing the AN/ALQ-85 signal surveillance/receiver system. Additional ECM gear fitted in the nose required the front area of the A-6 to be lengthened by about 8 inches.

No sooner had the EA-6A entered service that Grumman were already working on an advanced 'electronic' Intruder designated EA-6B as a replacement for the EKA-3B Skywarrior for the US Navy; although a development of the original design, the new and dedicated role of this version justified also a change of name: 'Prowler'. It was designed work in conjunction with naval and ground defences and provide the electronic countermeasures required against the ever-increasing complex array of enemy arsenals. Primarily it was to protect fleet surfaces units and their aircraft by jamming hostile radars and all other means of communications. Engines for the Prowler remained the two non-afterburning Pratt & Whitney J52-P-40B engines.

Forward fuselage was now considerably lengthened and the pilots' cockpit moved forward to make space for a second 'office', turning it into a four-seater. An antenna fairing similar to that of the EA-6A was added to the top of the vertical tail surfaces. Heart of the Prowler's electronic suite is the ALQ-99 Tactical Jamming System (TJS) comprising a receiver, processor and several mission-configured jamming pods or other external stores; it is also equipped with the USQ-113 Communications Jammer (CJ). It can also deliver a punch in the form of the AGM-88 High-Speed Anti-Radiation air-to-surface missile (HARM) designed to home in and destroy electronic transmissions coming from surface-to-air radar systems.

First flight of the EA-6B Prowler was on 25 May 1968, the first of three A-6As converted to the new configuration. Total production was to run up to 170 examples between 1966 and 1991 and throughout its life it went through a series of equipment upgrades to enable it sustain its role. First of these upgrades came in 1973, barely two years since its service debut, which was named 'expanded capability (EXCAP); it was followed by 'improved capability' (ICAP) in 1976 and ICAP II in 1980, which included the ability of firing Shrike and HARM missiles.

The EA-6B took over most of the dedicated aerial radar jamming work previously performed by the EF-111 Raven after its retirement in 1995 and participated in most of US combat operations since it entered service in 1971. It is still in service with four US Marine Corps units (VMAQ-1, -2, -3, -4) and 14 US Navy units (VAQ-129 through to -140, -142 and -209).

By 1995 Northrop-Grumman (as it had became known) began delivering sets of a further upgrade, ICAP III, which the company claims to have performed beyond expectations in combat deployments in 'Operation Iraqi Freedom'. Conversions of the current EA-6B fleet are undertaken by the Manufacturing Center in St Augustine, Florida which had also built 114 new wing centre sections for the Prowler. ICAP III will remain the foundation for Northrop Grumman's future advanced electronic attack systems that will be incorporated into the EA-18G Growler, that will eventually replace the Prowler in US Navy service.

Grumman's production works were often referred to as the 'Iron Works' for the reliability and ruggedness that the company built into its products; with over half a century of history, Intruder and Prowler prove this beyond any doubt.

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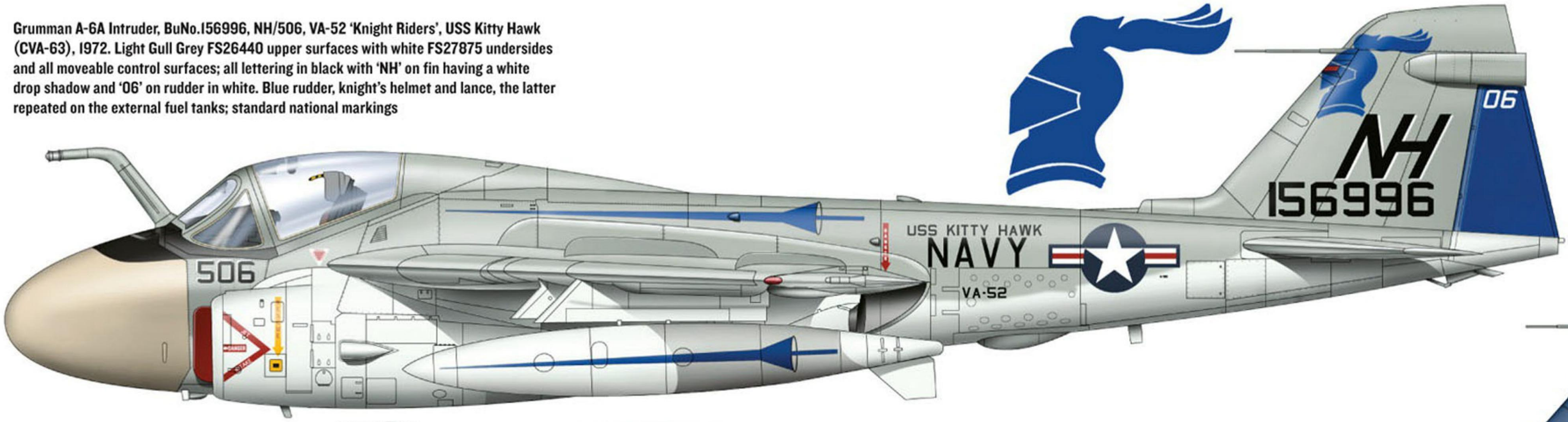
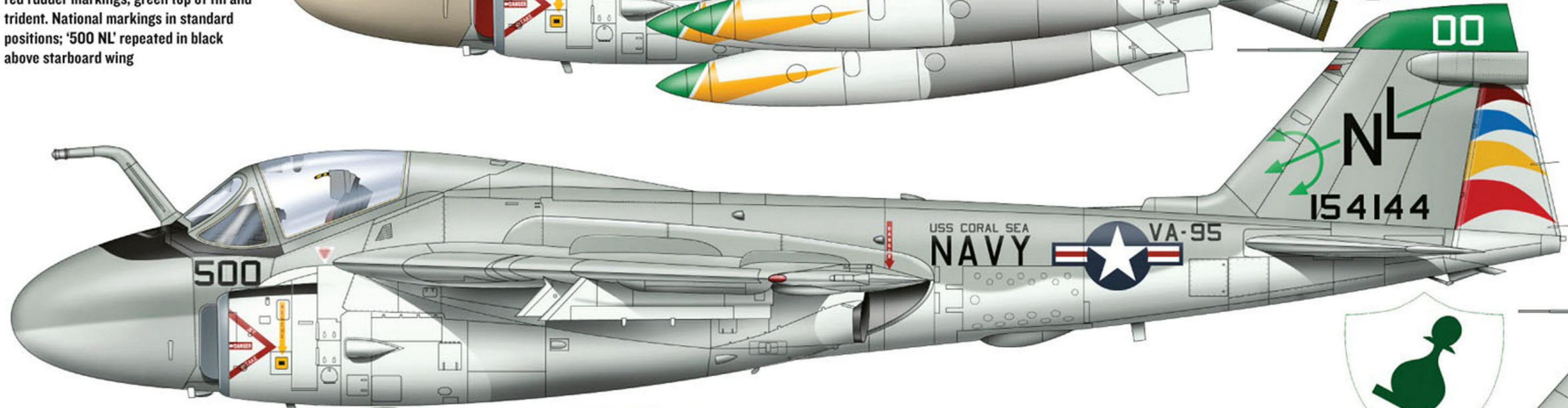
Grumman A-6A Intruder, BuNo.156996, NH/506, VA-52 'Knight Riders', USS Kitty Hawk (CVA-63), 1972. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; all lettering in black with 'NH' on fin having a white drop shadow and '06' on rudder in white. Blue rudder, knight's helmet and lance, the latter repeated on the external fuel tanks; standard national markings




Below: Grumman KA-6D Intruder, BuNo.149952, NF/523, VA-115 'Chargers', US Navy, USS Midway (CVA-41), 1973. Light Gull Grey FS26440 upper surfaces with white FS.27875 undersides and all moveable control surfaces; dark blue fin with green top and yellow horizontal band. Deep yellow/white markings on fin, green fuselage band. All lettering in black except those on fin which are in white; note green/yellow motif on external fuel tanks

Grumman A-6A Intruder, BuNo.154144, NL/500 of VA-95 'Green Lizards', USS Coral Sea (CVA-43), 1973. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; anti-dazzle panel and all lettering in black. Maroon/blue/yellow/red rudder markings; green top of fin and trident. National markings in standard positions; '500 NL' repeated in black above starboard wing




A-6A Intruder, BuNo.152603, AD/547, VA-42 'Green Pawns', 1978. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; dark green pawn on fin, repeated within a white shield aft of cockpit. All lettering in black, with those on fin having a Light Gull Grey outline; nose and tail codex in black with white drop shadow

Profiles 1:72 Scale
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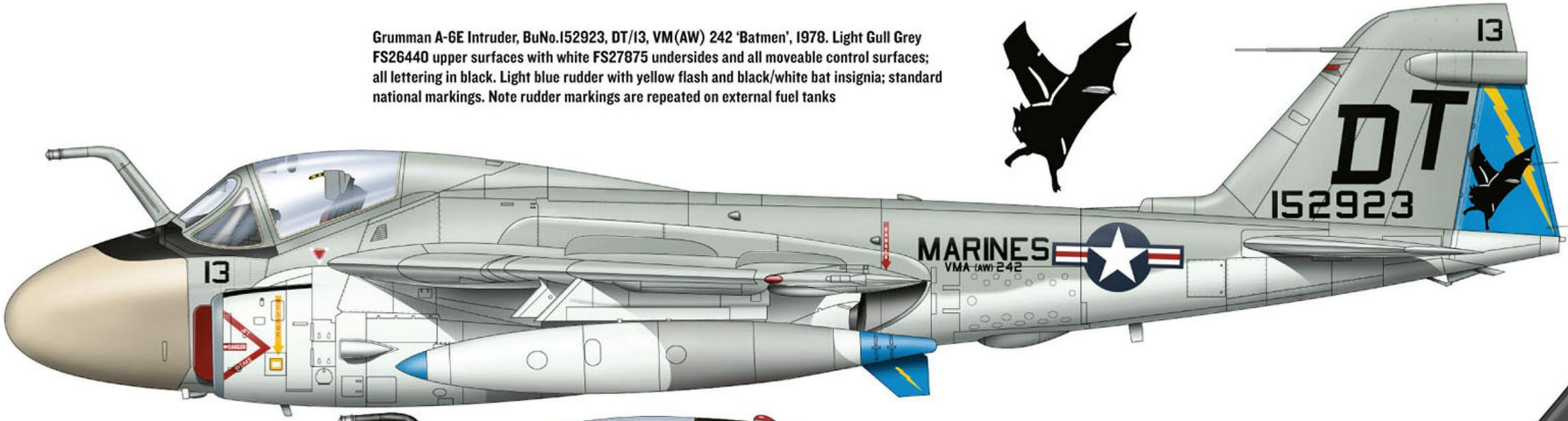
Grumman A-6E Intruder, BuNo.152923, DT/13, VM(AW) 242 'Batmen', 1978. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; all lettering in black. Light blue rudder with yellow flash and black/white bat insignia; standard national markings. Note rudder markings are repeated on external fuel tanks

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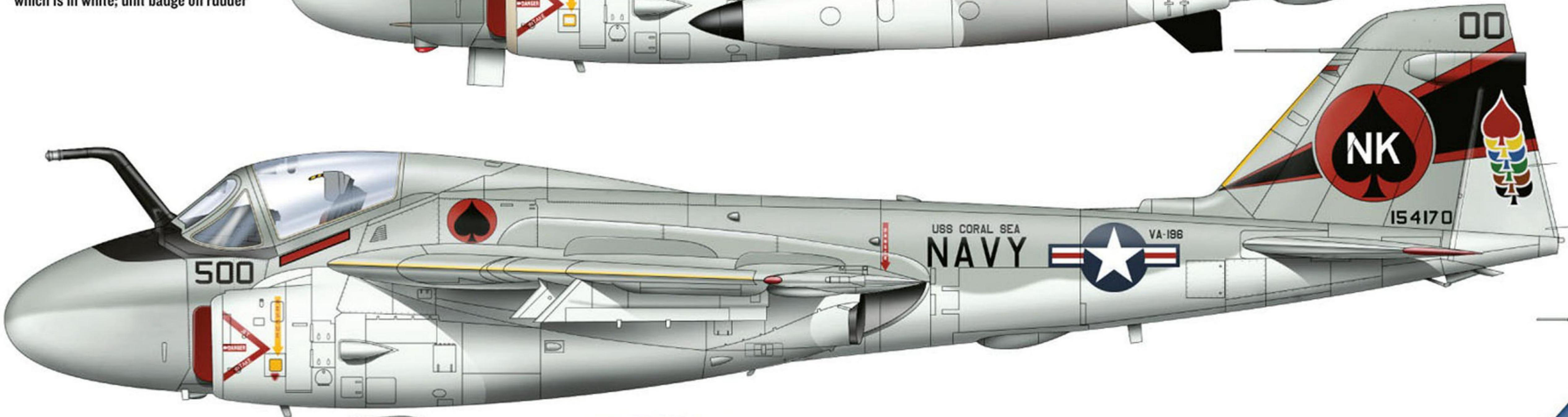
Grumman EA-6A Intruder, BuNo.151597, CY/07, VMCJ-2 'Playboys', US Marine Corps, 1978. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; black cockpit framing, anti-dazzle panel, refuelling probe and fin. All lettering in black except that on fin which is in white; unit badge on rudder

A-6A Intruder, BuNo.154170, NK/500, VA-196 'Main Battery', USS Coral Sea (CVA-43), 1980. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; all lettering in black. Black/red/white markings on vertical tail surfaces; CAG 'Ace of Spades' markings in (from top to bottom) red, yellow, blue, green, brown and black, all outlined in white; unit badge repeated aft of cockpit. Note black refuelling prober




Grumman A-6A Intruder, BuNo.157024, ED/00, VMA(AW) 533 'Hawks', (MAW-1 Wing), US Marine Corps. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; Dark Blue fin and checks on rudder. Lettering on fin is in white, all other lettering is in black; standard national markings

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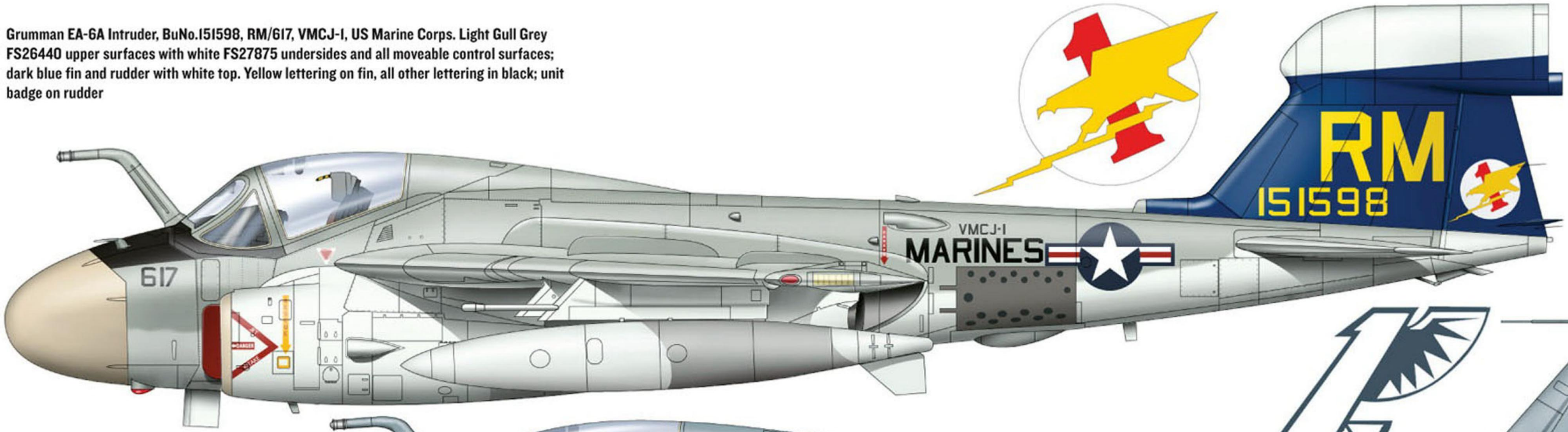
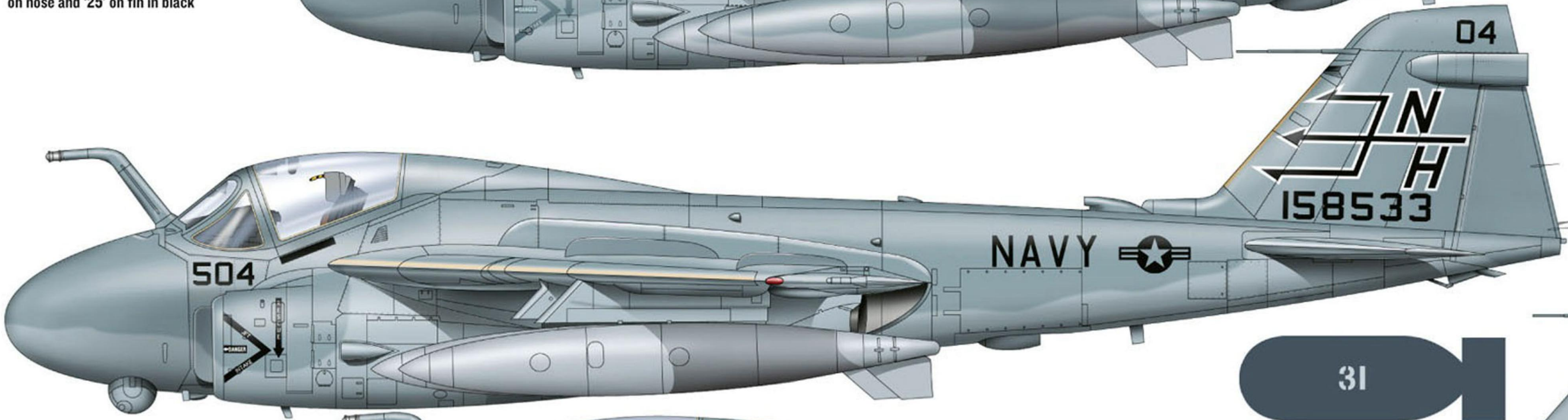
Grumman EA-6A Intruder, BuNo.151598, RM/617, VMCJ-1, US Marine Corps. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; dark blue fin and rudder with white top. Yellow lettering on fin, all other lettering in black; unit badge on rudder

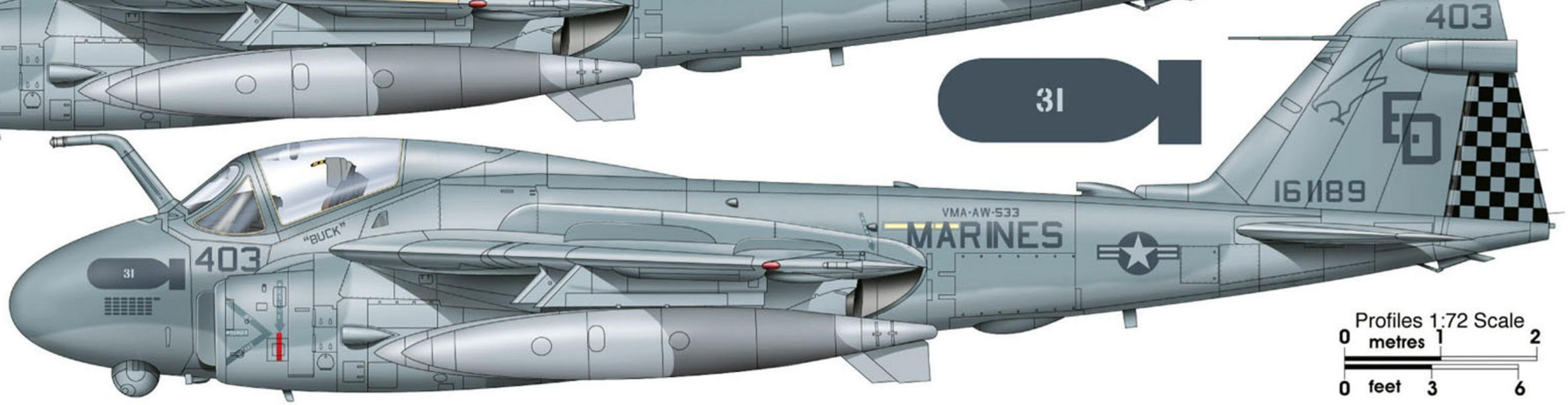



Grumman A-6E Intrufer, BuNo.155688, NJ/825, VA-128 'Golden Intruders', US Navy, 1985. Compass Grey (FS36320), and Light Compass Gray (FS36375) scheme; lettering and fin marking in Gungship Grey (FS36118) except for '825' on nose and '25' on fin in black

Grumman A-6E TRAM Intruder, BuNo.158533, NH/504, VA-95 'Green Lizards', US Navy, April 1985. Compass Grey (FS36320), and Light Compass Grey (FS36375) scheme with all lettering in black; trident and 'NH' on fin outlined in white




Grumman A-6E TRAM, BuNo.161189, ED/403, VMA(AW) 533 'Hawks', US Marine Corps, Desert Storm. Compass Grey (FS36320), and Light Compass Grey (FS36375) scheme with all markings in Gungship Grey (FS36118); rudder checks in black. Mission tally on nose and 'hawk' marking on fin in outline only; name below cockpit is "Buck"




Profiles 1:72 Scale
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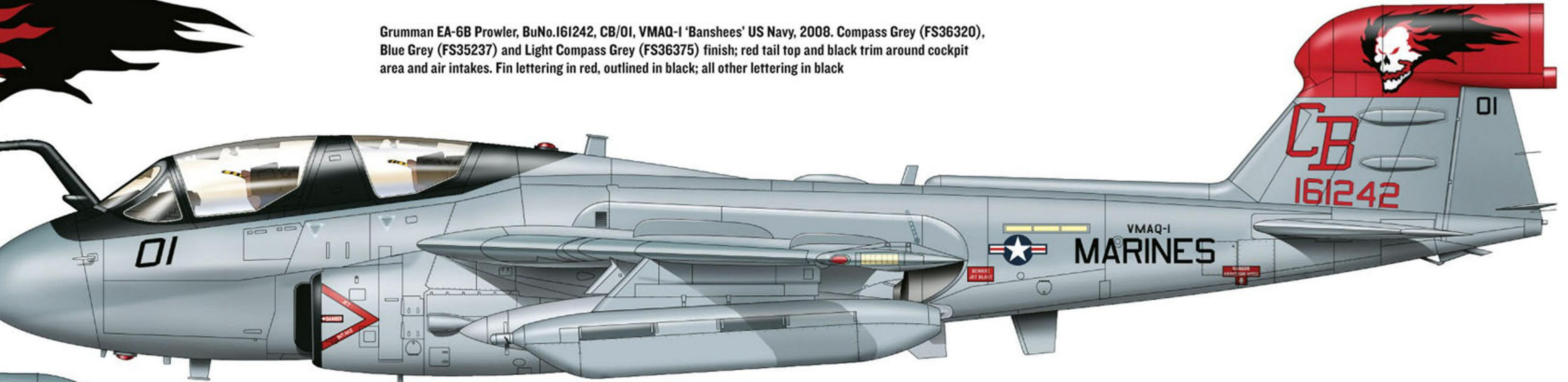
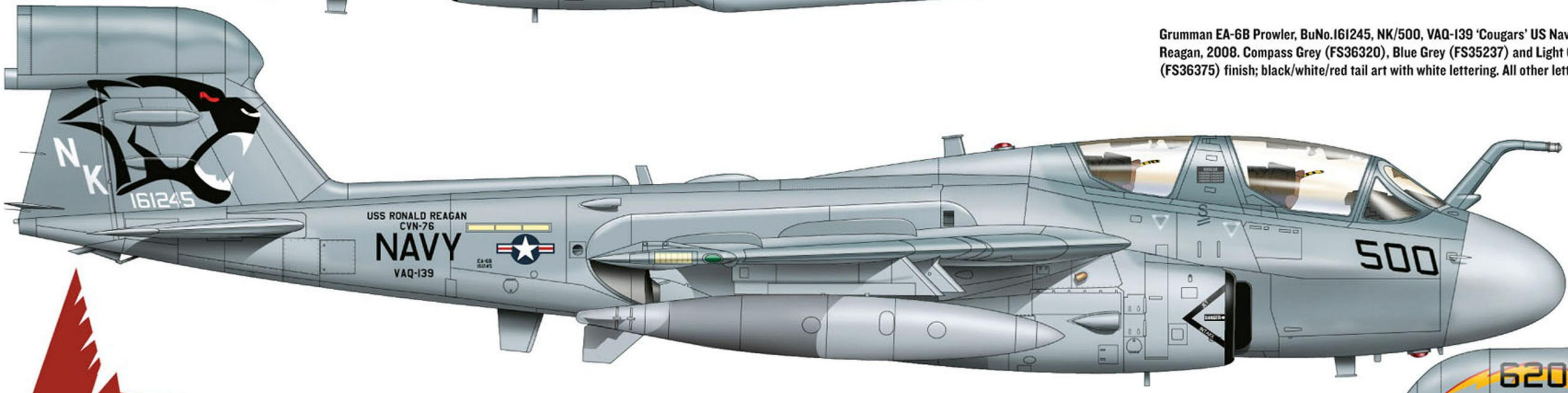
0 feet 3 6

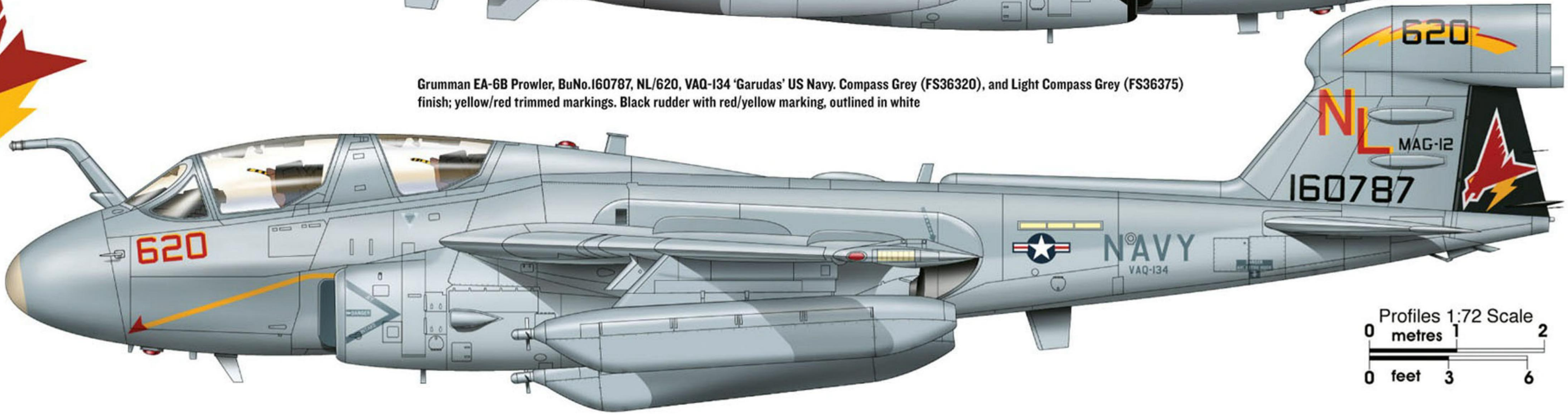
Grumman EA-6B Prowler, BuNo.161242, CB/01, VMAQ-1 'Banshees' US Navy, 2008. Compass Grey (FS36320), Blue Grey (FS35237) and Light Compass Grey (FS36375) finish; red tail top and black trim around cockpit area and air intakes. Fin lettering in red, outlined in black; all other lettering in black




Grumman EA-6B Prowler, BuNo.161245, NK/500, VAQ-139 'Cougars' US Navy, USS Ronald Reagan, 2008. Compass Grey (FS36320), Blue Grey (FS35237) and Light Compass Grey (FS36375) finish; black/white/red tail art with white lettering. All other lettering in black



Grumman EA-6B Prowler, BuNo.160787, NL/620, VAQ-134 'Garudas' US Navy. Compass Grey (FS36320), and Light Compass Grey (FS36375) finish; yellow/red trimmed markings. Black rudder with red/yellow marking, outlined in white




Profiles 1:72 Scale
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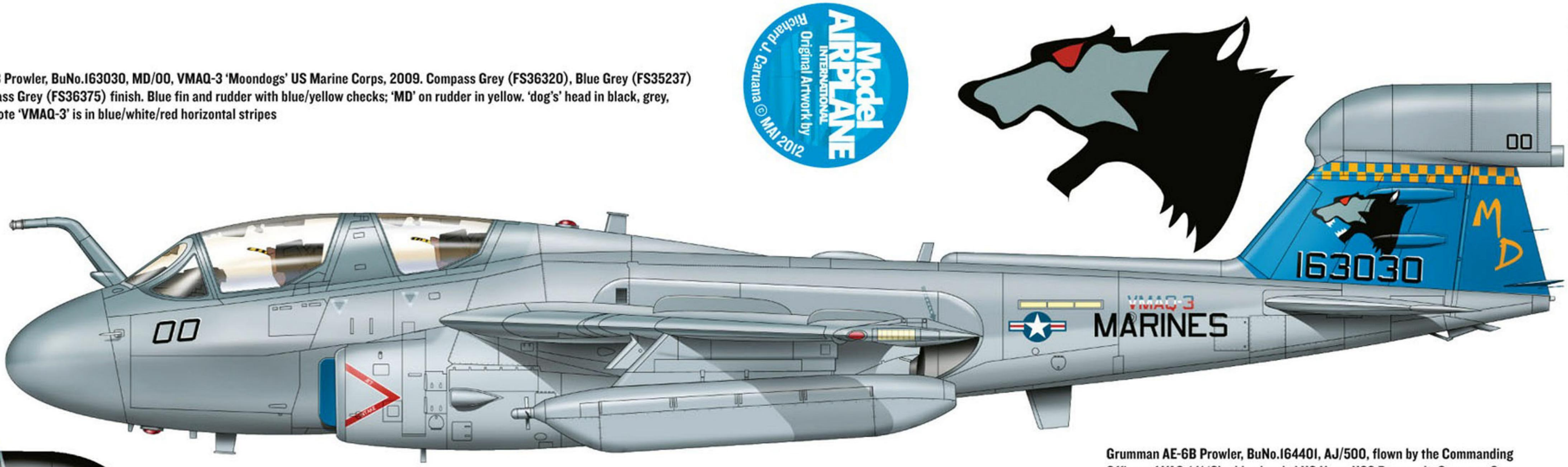
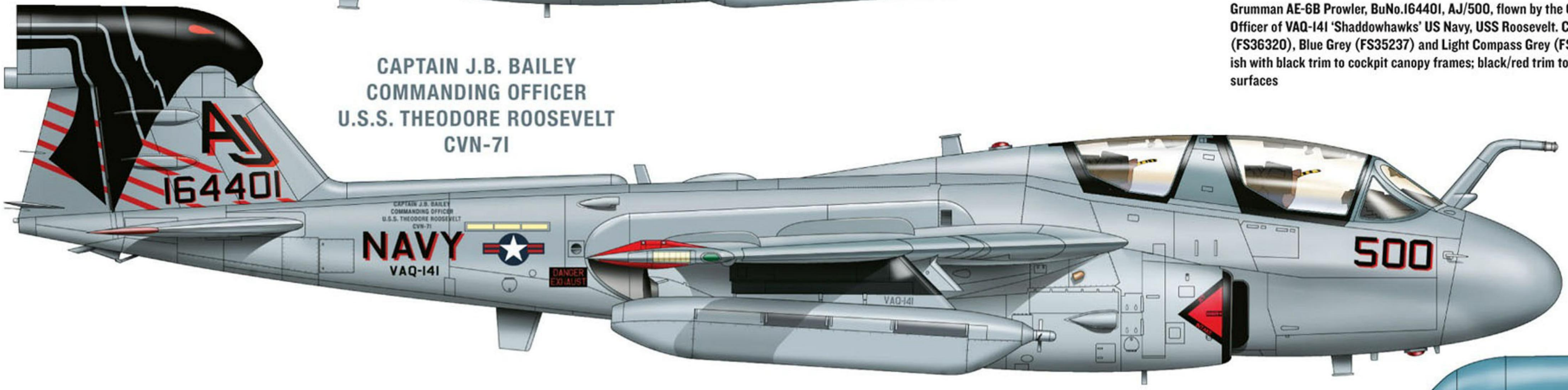
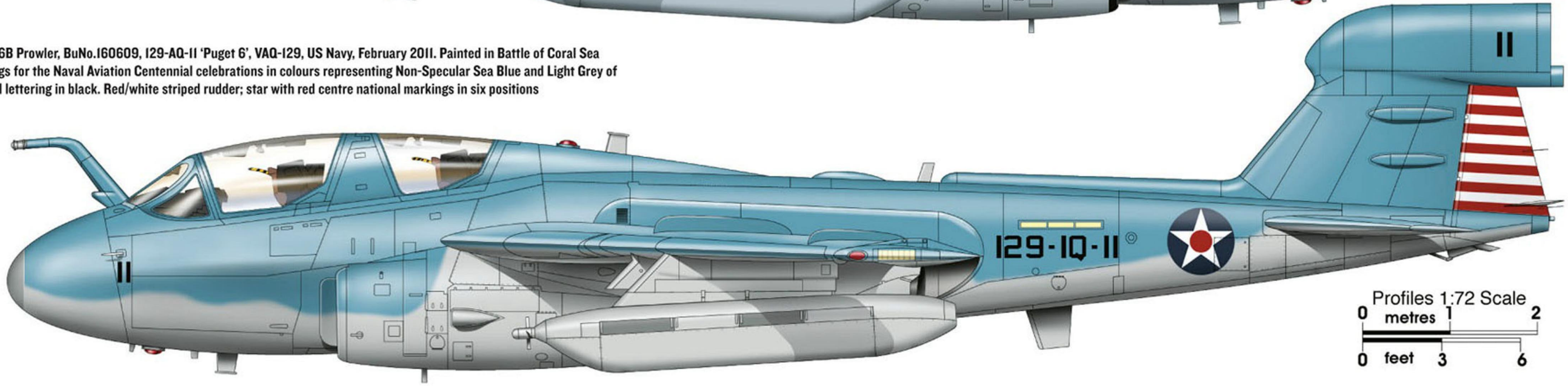
Grumman EA-6B Prowler, BuNo.163030, MD/00, VMAQ-3 'Moondogs' US Marine Corps, 2009. Compass Grey (FS36320), Blue Grey (FS35237) and Light Compass Grey (FS36375) finish. Blue fin and rudder with blue/yellow checks; 'MD' on rudder in yellow. 'dog's' head in black, grey, white and red; note 'VMAQ-3' is in blue/white/red horizontal stripes




Grumman AE-6B Prowler, BuNo.164401, AJ/500, flown by the Commanding Officer of VAQ-141 'Shaddowhawks' US Navy, USS Roosevelt. Compass Grey (FS36320), Blue Grey (FS35237) and Light Compass Grey (FS36375) finish with black trim to cockpit canopy frames; black/red trim to vertical tail surfaces




Grumman EA-6B Prowler, BuNo.160609, 129-AQ-11 'Puget 6', VAQ-129, US Navy, February 2011. Painted in Battle of Coral Sea Group Markings for the Naval Aviation Centennial celebrations in colours representing Non-Specular Sea Blue and Light Grey of that period; all lettering in black. Red/white striped rudder; star with red centre national markings in six positions




Profiles 1:72 Scale
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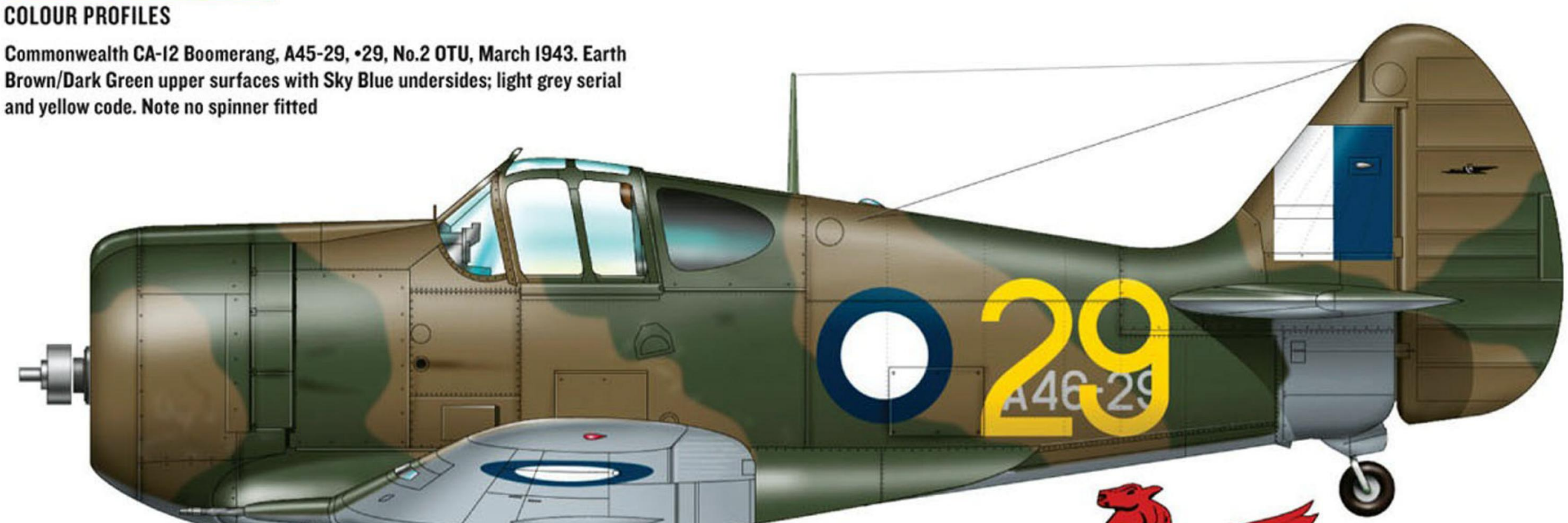
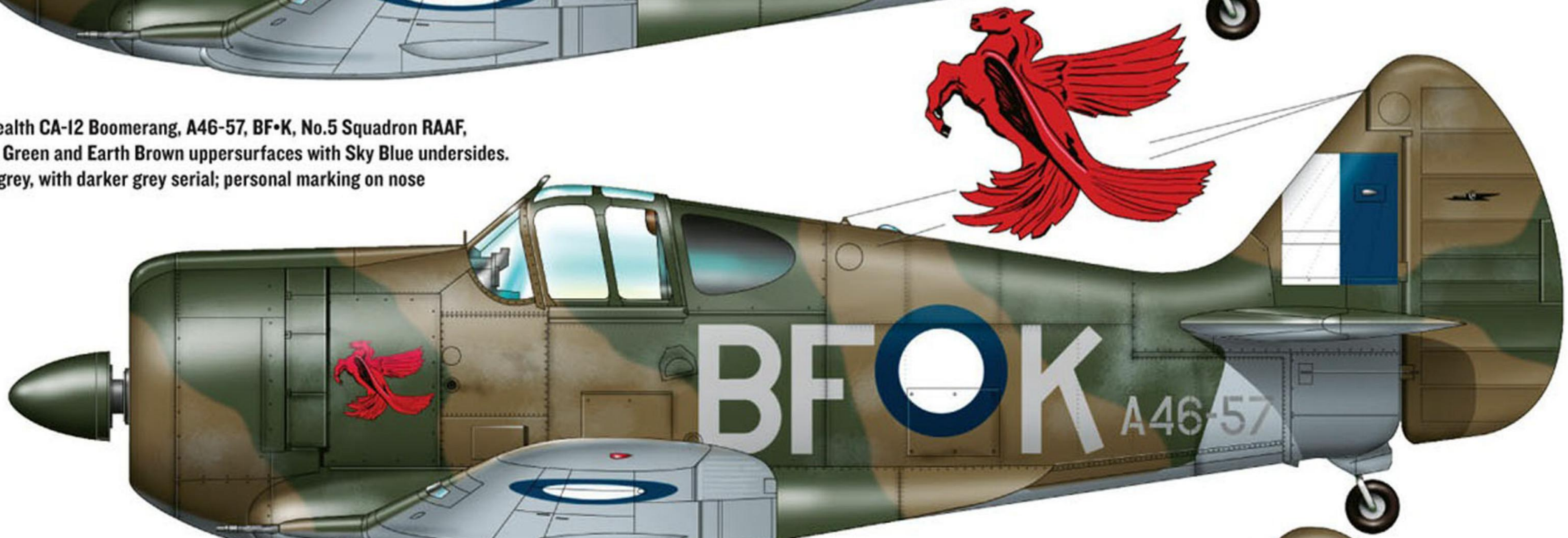
Commonwealth CA-12 Boomerang, A45-29, •29, No.2 OTU, March 1943. Earth Brown/Dark Green upper surfaces with Sky Blue undersides; light grey serial and yellow code. Note no spinner fitted



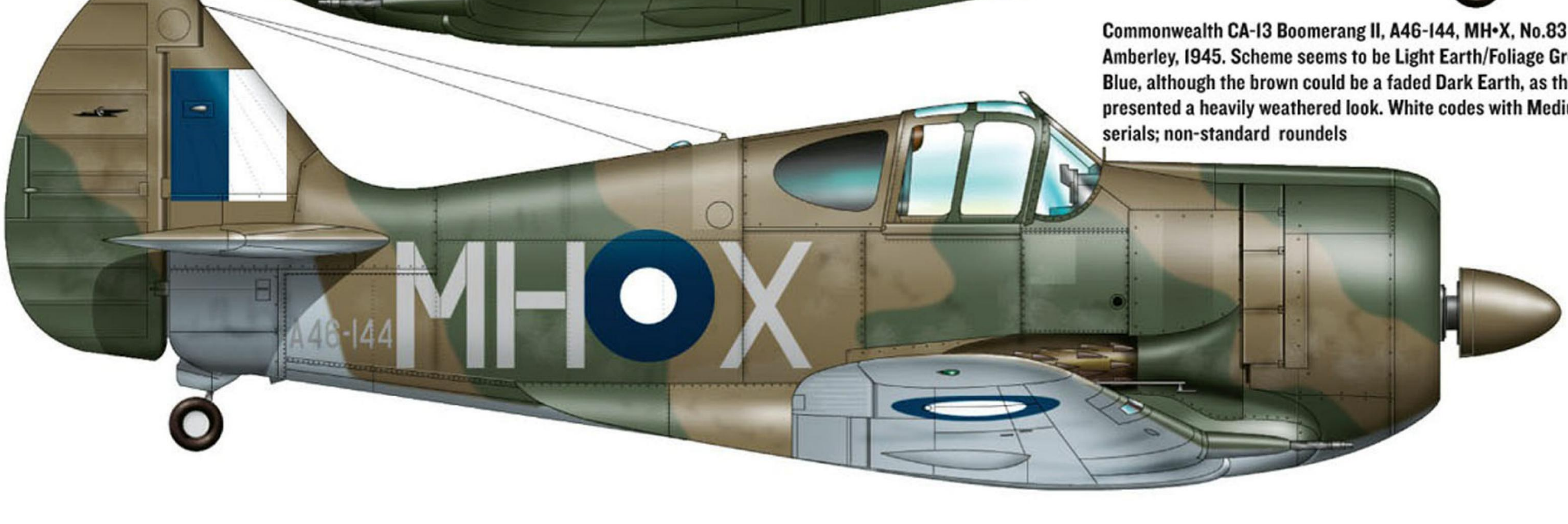

Commonwealth CA-12 Boomerang, A46-57, BF•K, No.5 Squadron RAAF, 1944. Dark Green and Earth Brown uppersurfaces with Sky Blue undersides. Codes are grey, with darker grey serial; personal marking on nose



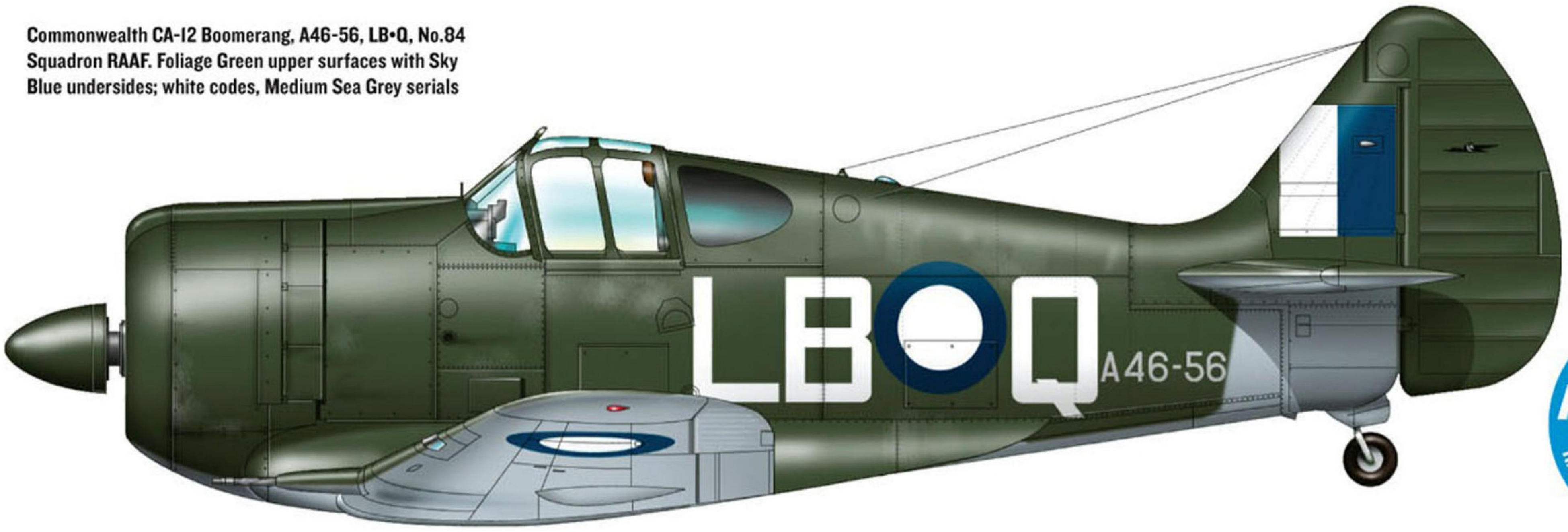

Commonwealth CA-12 Boomerang, A46-62, •R of No.83 Squadron RAAF, Perth, summer 1943. Finish as above. Sky Blue spinner and Medium Sea Grey codes and serials; 'Sleepytime Girl' in white on engine cowling

Commonwealth CA-12 Boomerang, A46-121, QE•N, No.4 Squadron, based at Balikpapan, 1945. Foliage Green overall. White codes, Medium Sea Grey serials. 'Olga' on nose in yellow with black shadow

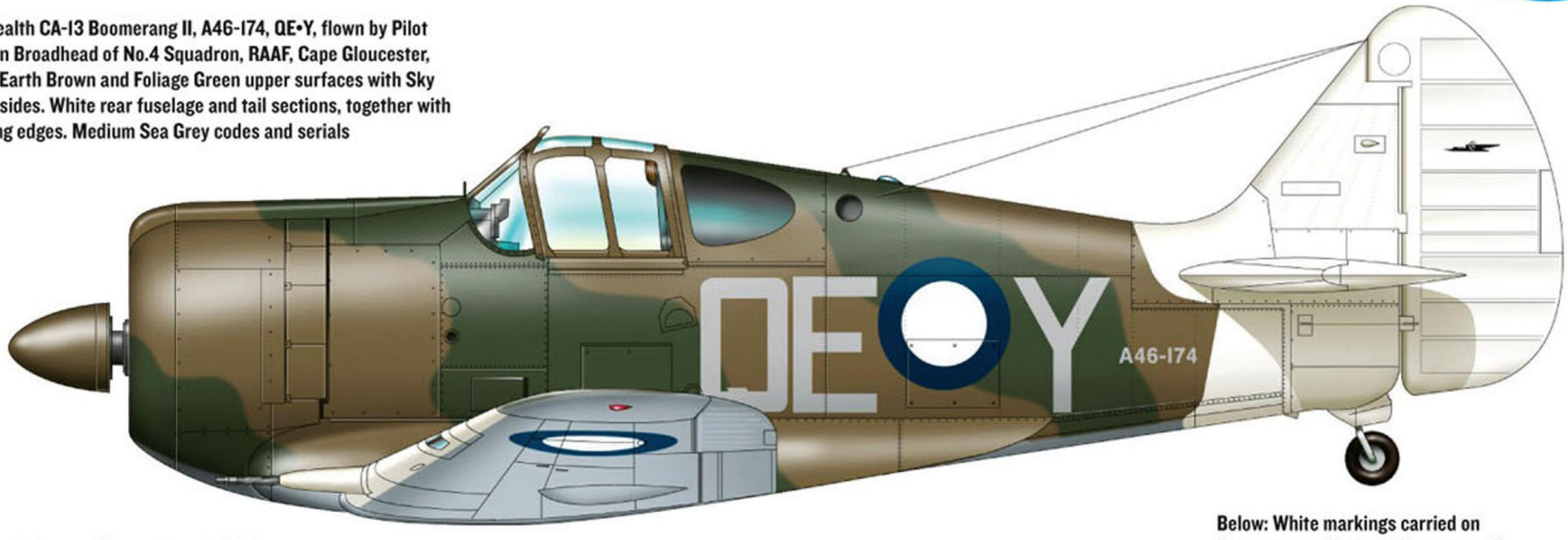
Commonwealth CA-13 Boomerang II, A46-144, MH•X, No.83 Squadron, Amberley, 1945. Scheme seems to be Light Earth/Foliage Green/Sky Blue, although the brown could be a faded Dark Earth, as the aircraft presented a heavily weathered look. White codes with Medium Sea Grey serials; non-standard roundels



Commonwealth CA-12 Boomerang, A46-56, LB•Q, No.84 Squadron RAAF. Foliage Green upper surfaces with Sky Blue undersides; white codes, Medium Sea Grey serials

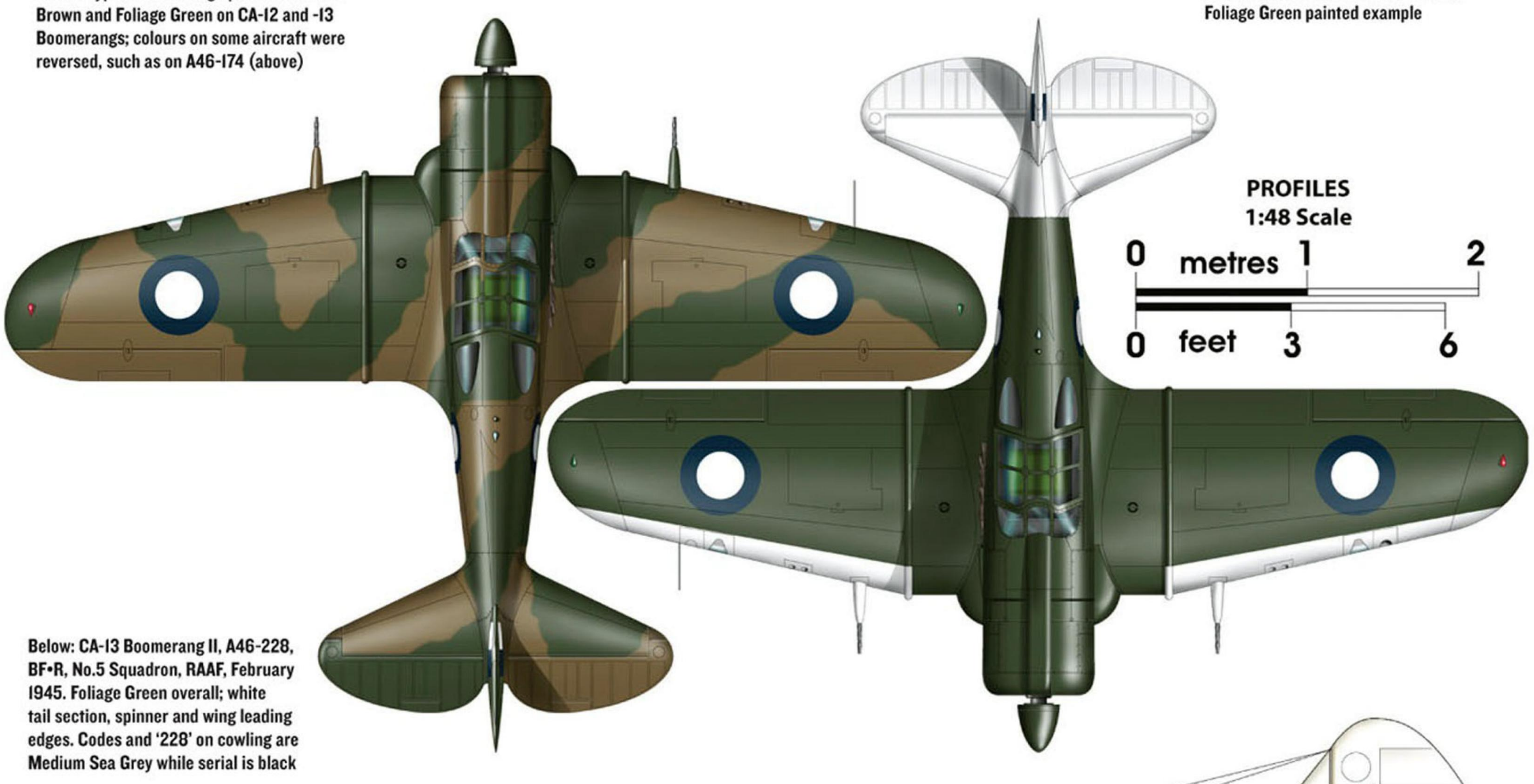



Commonwealth CA-13 Boomerang II, A46-174, QE•Y, flown by Pilot Officer Stan Broadhead of No.4 Squadron, RAAF, Cape Gloucester, May 1944. Earth Brown and Foliage Green upper surfaces with Sky Blue undersides. White rear fuselage and tail sections, together with wing leading edges. Medium Sea Grey codes and serials

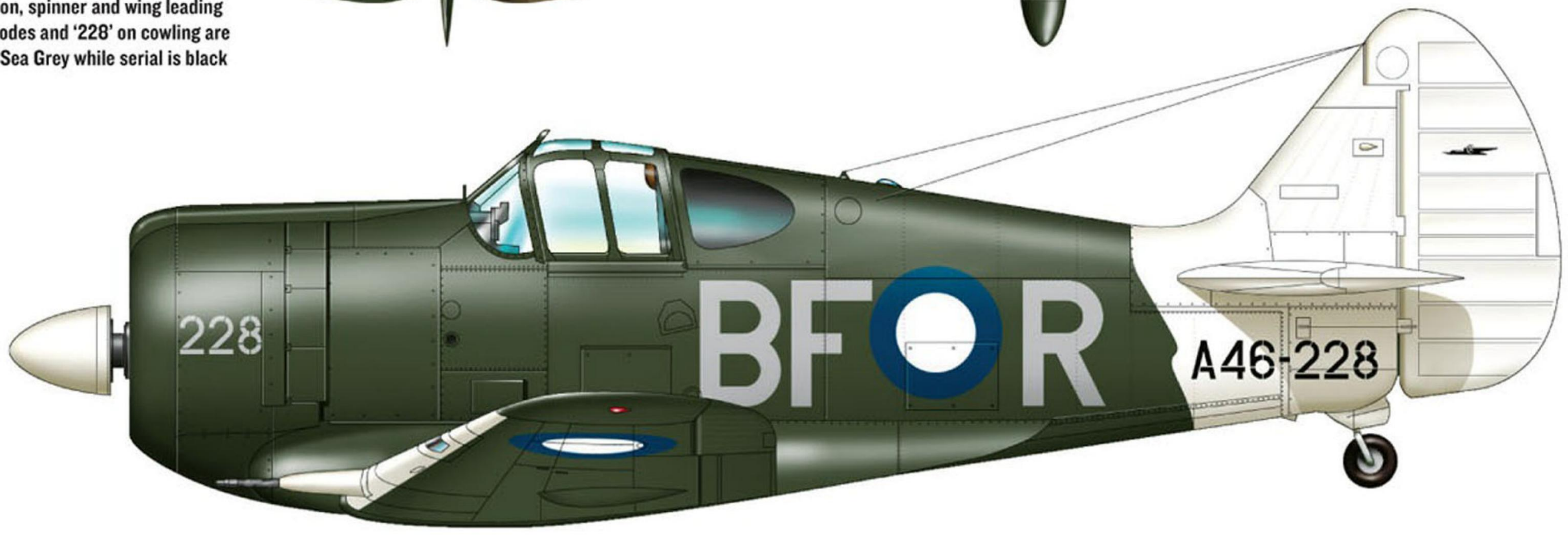



Below: White markings carried on Boomerangs; illustrated is an overall Foliage Green painted example

Below: Typical camouflage pattern in Earth Brown and Foliage Green on CA-12 and -13 Boomerangs; colours on some aircraft were reversed, such as on A46-174 (above)




Below: CA-13 Boomerang II, A46-228, BF•R, No.5 Squadron, RAAF, February 1945. Foliage Green overall; white tail section, spinner and wing leading edges. Codes and '228' on cowling are Medium Sea Grey while serial is black



PROFILES 1:48 Scale

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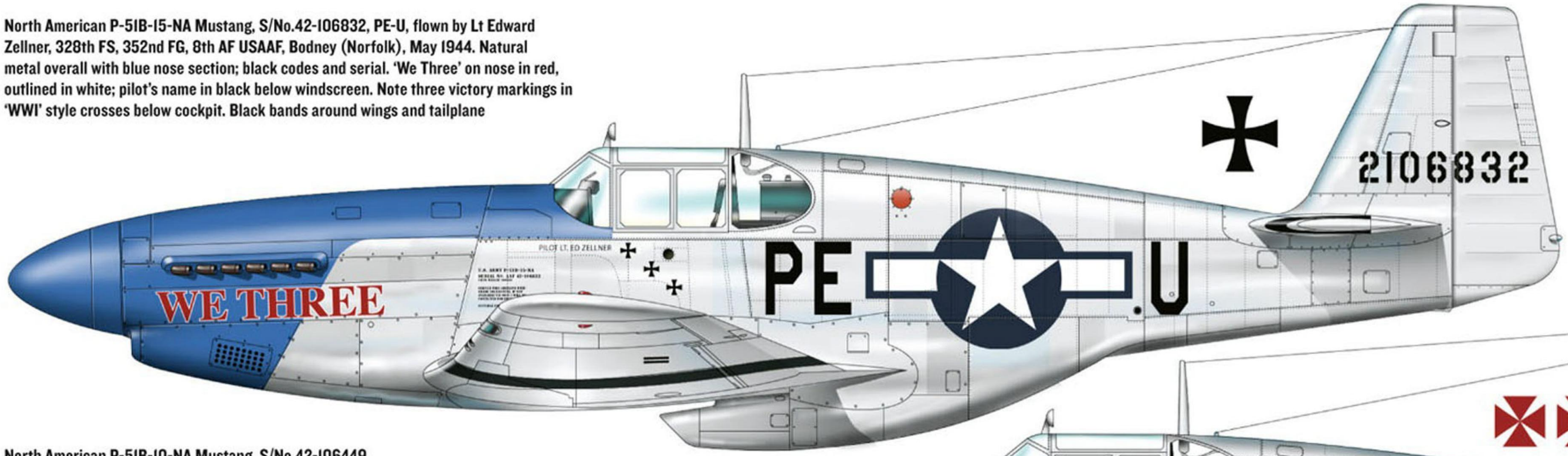
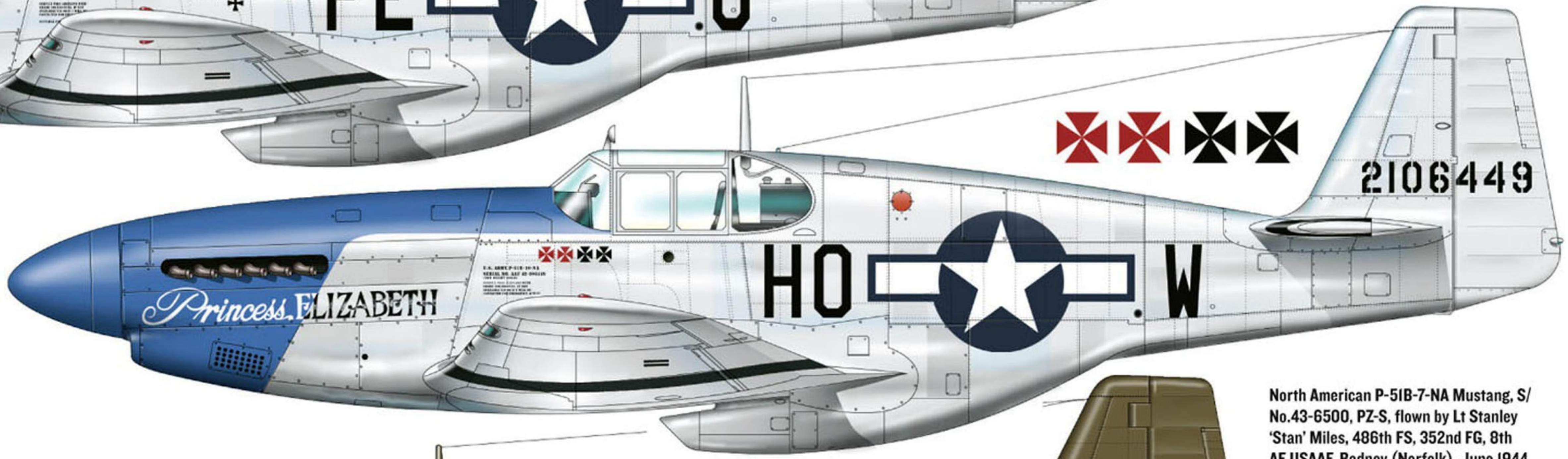
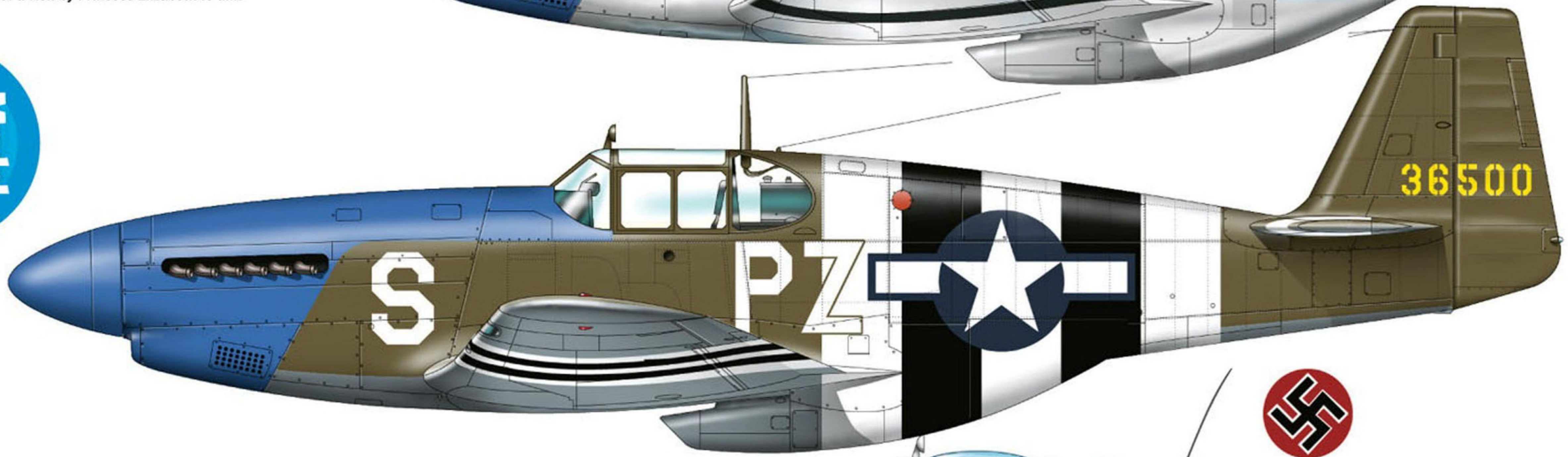
North American P-51B-15-NA Mustang, S/No.42-106832, PE-U, flown by Lt Edward Zellner, 328th FS, 352nd FG, 8th AF USAAF, Bodney (Norfolk), May 1944. Natural metal overall with blue nose section; black codes and serial. 'We Three' on nose in red, outlined in white; pilot's name in black below windscreen. Note three victory markings in 'WWI' style crosses below cockpit. Black bands around wings and tailplane




North American P-51B-10-NA Mustang, S/No.42-106449, HO-W, flown by Capt. William T. 'Bill' Whisner, 487th FS, 532nd FG, 8th AF USAAF, Bodney (Norfolk), May 1944. Natural metal overall with blue nose section; black bands around wings and tailplane, codes and serial. Name on nose 'Princess Elizabeth' in white and black; two victory markings in red and two in black below windscreen. Hidden by the wing, below the serial details aft of firewall is a white cross. Name on nose was 'forced' on Whisner by his CO in honour of a visit by Princess Elizabeth to unit




North American P-51B-7-NA Mustang, S/No.43-6500, PZ-S, flown by Lt Stanley 'Stan' Miles, 486th FS, 352nd FG, 8th AF USAAF, Bodney (Norfolk), June 1944. Olive Drab (FS.34084) upper surfaces with Neutral Gray (FS.36173) undersides; blue nose. White codes, yellow serial; Night/white bands around fuselage and wings, white band around tailplane

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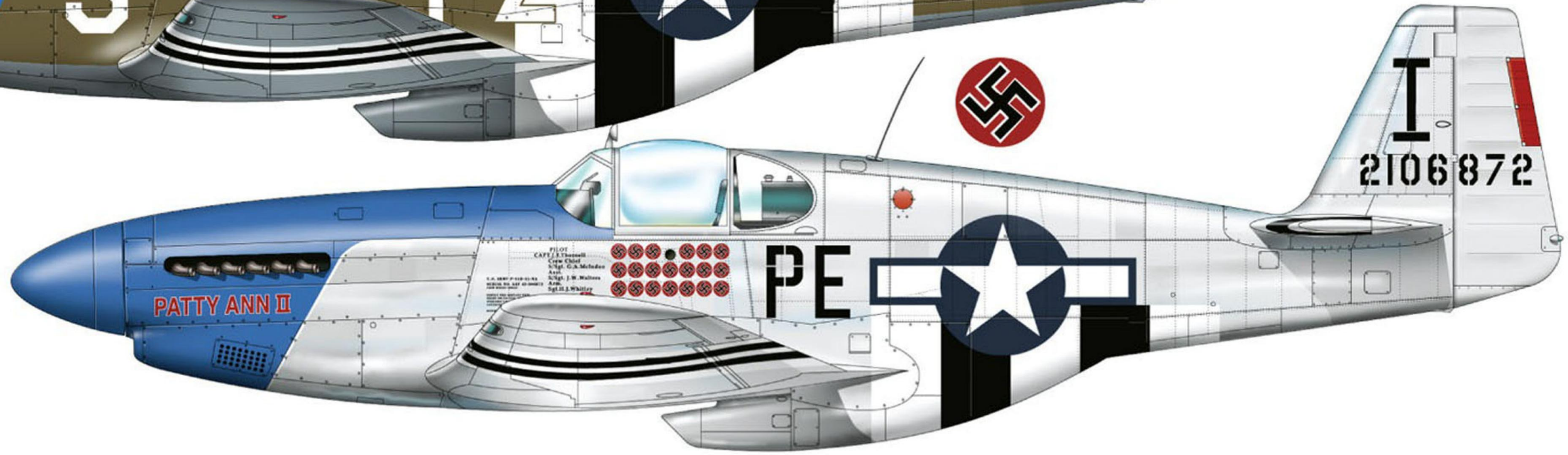
North American P-51B-15-NA Mustang, S/No.42-106872, PE-I, flown by 1st Lt John F. Thornell Jr, 328th FS, 352nd Fighter Group, Bodney, July 1944. Natural metal overall with blue nose section (thinly outlined in white); codes and serial in black. Night/white 'D-Day' stripes around wings and below rear fuselage; 20 victory markings below cockpit



Grumman Hellcat Mk I, JV132, E•F, flown by Lt B. Ritchie of N.800 Naval Air Squadron FAA, HMS Emperor, May 1944. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with Sky undersides; white codes, Night serial. Standard national markings for the period

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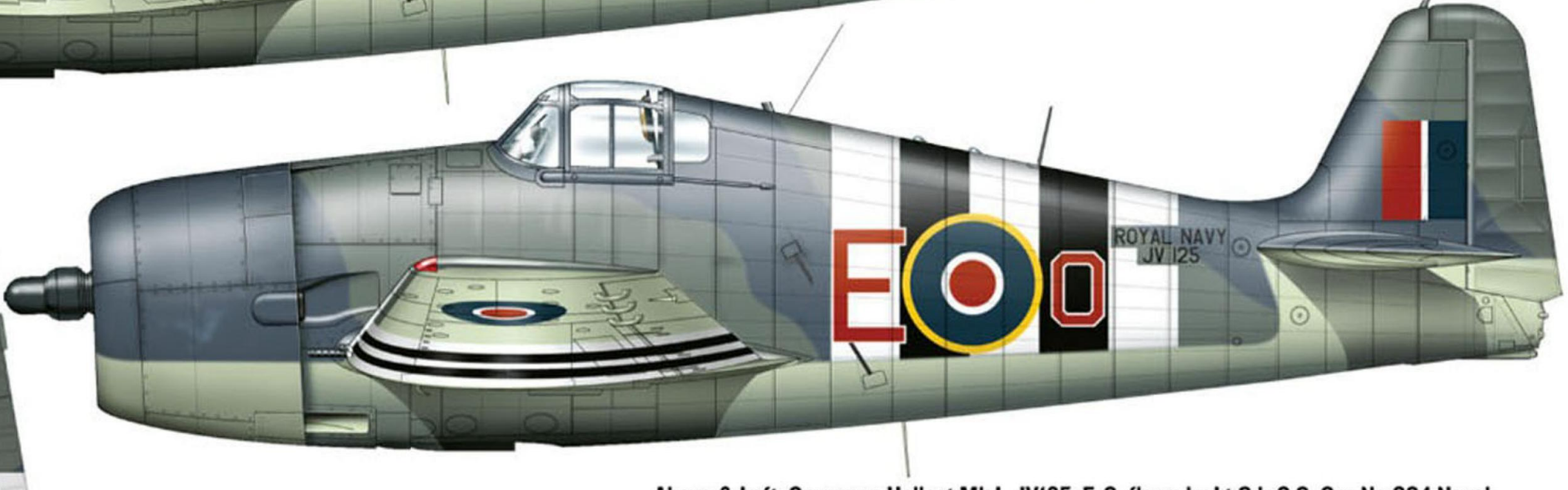
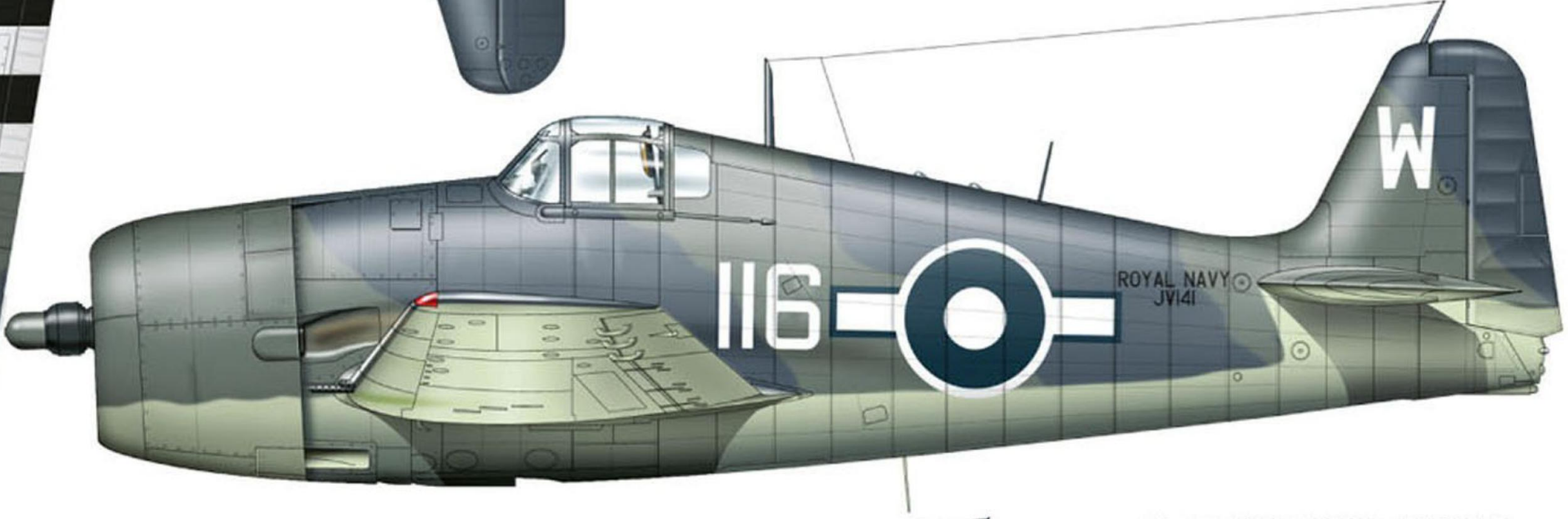


Above & Left: Grumman Hellcat Mk I, JV125, E•O, flown by Lt Cdr S.G. Orr, No.804 Naval Air Squadron, HMS Emperor, 1944. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with Sky undersides; red codes, outline in white, Night serial. Standard national markings for the period; Night/white bands around rear fuselage and around wings

Below: Grumman Hellcat Mk I, JV141, 116/W, No.1839 Naval Air Squadron, HMS Indomitable, 1945. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with Sky undersides; white codes. Black serial; national markings on fuselage sides, above port and below starboard wings




Profiles 1:72 Scale
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Grumman Hellcat F Mk II, JZ788, C7•J, No.808 Naval Air Squadron, Fleet Air Arm, HMS Khedive, August 1945. Sea Blue overall with white propeller boss, front of engine cowling and bands around fuselage, wings, tailplane and fin; white lettering. Ident Blue/white national markings in six positions

Grumman Hellcat Mk II, JZ935, 145/W, No.1844 Naval Air Squadron, Fleet Air Arm, HMS Indomitable, 1945. Sea Blue Gloss overall with white codes and serials; blue/white markings on fuselage sides, above port and below starboard wing

Model AIRPLANE INTERNATIONAL

# END OF THE LINE SPITFIRES

## THE F.22 AND F.24

Another F Mk 22 from No.73 Squadron, PK674, 'L' showing the unit's blue and white flash flanking the fuselage roundels. Although the squadron was based at Ta' Qali, this picture was taken at Luqa, probably during its first stop on arrival at Malta in October 1947 (R.J. Caruana Archives)

Too late to see combat, the last Spitfire versions to see service represented the end product of the Giffon-engined line born in the middle of the Second World War. Although the Mk IV was intended as an interim version until the arrival of the Mk VXII it was to become the most widely used version powered by the Griffon. Moreover, it featured an extensive overall redesign, not only to accommodate the larger and more powerful engine but also in most other areas.

The 'second generation' Spitfire line was born early in 1941 with an Air Ministry requirement for two examples to be powered by the Rolls Royce Griffon IIB. Originally designated as Spitfire Mk IV, the first example (DP845) flew for the first time on 27 November 1941. Soon afterwards the designation was changed to Mk XX, as the second aircraft (DP851) was referred to when it performed its first flight on 8 August 1942. Externally its wing was identical to that of the standard Spitfire, however it had been completely redesigned internally in order to considerably increase its strength. By the end of that year DP851 had been fitted with the Griffon 61 and re-designated F Mk 21.

PK724 is a Spitfire F Mk 24 (c/n CBAF255) and one of the three examples of its type still in existence. It became 7288M at Brize Norton in November 1955 and was eventually restored for the RAF Museum at Hendon (R.J. Caruana)

Plans for mass production of the F Mk 21 for the Royal Air Force (RAF) with orders amounting to 3,373 had to be severely downscaled due to the end of the conflict. Of the 120 built only three front line squadrons the first of which, No.91, received the type in January 1945 at Manston. Severe instability in flight during the development programme had not been completely ironed out by the time F Mk 21 deliveries began and further modifications were eventually also made to No.91 Squadron's Spitfires by the time it was declared operational in April. During its short operational career, the F Mk 21 enjoyed a good degree of success. The other squadrons to receive the F Mk 21 were Nos.1, 41 and 122; soon their aircraft were handed over to Nos.600, 602 and 615 Squadron, Royal Auxiliary Air Force (RAuxAF).

Superb in-flight shot of PK312, the first of the F Mk 22 Spitfires, after it had been completely modified to take the Spiteful tail unit. Extensive tests were performed on this particular aircraft including the installation of a F Mk 21 style contra-rotating propeller in September 1946 (Vickers Armstrong Ltd)

The mass cancellation of orders for the F Mk 21 was partially offset by diverting orders for the production of other versions of the Spitfire and Seafire. Among such orders were those for a new mark of Spitfire, the F Mk 22 which differed from the F Mk 21 mainly in having a cut-down rear fuselage and the cockpit covered by a bubble canopy. The new mark also incorporated the new 24-volt electrical system that had been introduced on late F Mk 21s. Although an extra fuselage fuel tank was fitted behind the cockpit its use had to be prohibited as it was found to critically shift the aircraft's centre of gravity.

Instability problems cropped once again as a result of the reduced rear fuselage area and the whole tail area required modification. A solution was found in replacing the whole section aft of the angled joint at Frame 19 at the rear end of the fuselage with that of the Spiteful. Area of the elevators increased by 27 percent and that of the vertical tail surfaces by 28 percent; oddly enough this unit added only 4lbs in all-up weight compared to the F Mk 21. The increase in length to 31ft 11in made it the longest version of the Spitfire line.

From the outset the F Mk 22 was designed to be able to operate in the ground attack role and had provision for the carriage of three 500lb bombs, one attached to a ventral centreline pylon and another under each wing. The centre pylon could also take a 50gall fuel tank while a special 170gall tank could be fitted for long ferry flights. Of the 627 examples ordered in March 1945 only 260 were built due to post-war cancellations. Instead of seeing service in the Far East as


Model AIRPLANE INTERNATIONAL

originally envisaged, the F Mk 22 was only operated by one unit of the RAF when No.73 Squadron were relived of their troublesome and weary F Mk IXs at Ta' Qali in Malta. The squadron had moved from Hal Far in July 1946 and by the end of that year not one of its Spitfires was serviceable due to lack of ground personnel.

The situation eased in 1947 but summer of that year was characterised by a series of accidents forcing the unit to ground all surviving Mk IXs in September. First F Mk 22 arrived at Malta to join No.73 Squadron in October 1947 with the unit having eight examples on strength by the end of November. By April of the following year only one Mk IX was still on strength, with the rest having been handed over to the Royal Hellenic Air Force (RHAF). July saw the arrival at Luqa of the first DeHavilland Vampire F Mk 3 and the last of No.73 Squadron's Spitfires left for the United Kingdom (UK) on 18 October 1948.

From then on the F Mk 22 was operated solely by units of the RAuxAF: Nos.502, 504, 600, 602, 603, 607, 608, 610, 611, 613, 614 and 615. By the first quarter of 1951 most of these units began to convert to jet fighters. This Spitfire version received some export orders; 22 were delivered to the Southern Rhodesian Air Force, 20 to the Royal Egyptian Air Force (staging through Malta) and 10 went to the Syrian Air Force.

Another view of one of the Royal Egyptian Air Force F Mk 22s that staged through Luqa, Malta, showing some wing marking details, such as the non-slip walkway and the position of the national markings (Malta Aviation Museum Foundation)

Based on the F Mk 22, the Mk 23 was intended to be fitted with a new wing of revised cross-section having the laminar flow characteristics of the Spiteful wing that had also been strengthened further to accommodate a pair of 20mm Hispano cannon. Such a wing was tested on a modified Spitfire F Mk VIII (JG204) and test flown for the first time by Jeffrey Quill in January 1944. Handling with this type of wing was found to be inferior to that of a standard wing. It is uncertain if a second modified prototype (PP139) ever flew with the 'Spiteful' style wing; what is certain is that this version never entered production.

The final version of the Spitfire was to be the F Mk 24 of which only 54 examples were built together with the conversion of 27 Mk 22s, with the last example (VN496) leaving the South Marston facility in February 1948. After ten years since the flight of the first Spitfire, the end of the line was considered to be a refinement of the F Mk 22 featuring underwing points for the fitting of zero-length rockets, the addition of two fuel tanks in the rear fuselage holding a total of 33gall and the replacement of the hydraulic gun-firing mechanism with an electric system. Externally it was difficult to distinguish between the F Mk 22 and 24, although the latter had the Hispano Mk V cannon fitted to the wing and, therefore, featured shorter gun barrels. However, this feature was introduced on the last of the F Mk 24s built making early examples indistinguishable from the previous F Mk 22 and one has to rely on the serial numbers to make a positive identification.

Only No.80 Squadron RAF was to operate the F Mk 24 receiving the type in January 1948 at its base in Gütersloh (Germany) as part of the Occupation Forces. In July of the following year the squadron was deployed to the Far East where its Spitfires arrived on an aircraft carrier at Hong Kong. There No.80 Squadron's Spitfires operated from Kai Tak airfield in defence of Hong Kong during a period of great tension in that area. DeHavilland Hornets took over this task in January 1952 and the unit's Spitfires were handed over to the Hong Kong Auxiliary Air Force where they became operational in May and remained in service until the last official flight on 15 January 1955.

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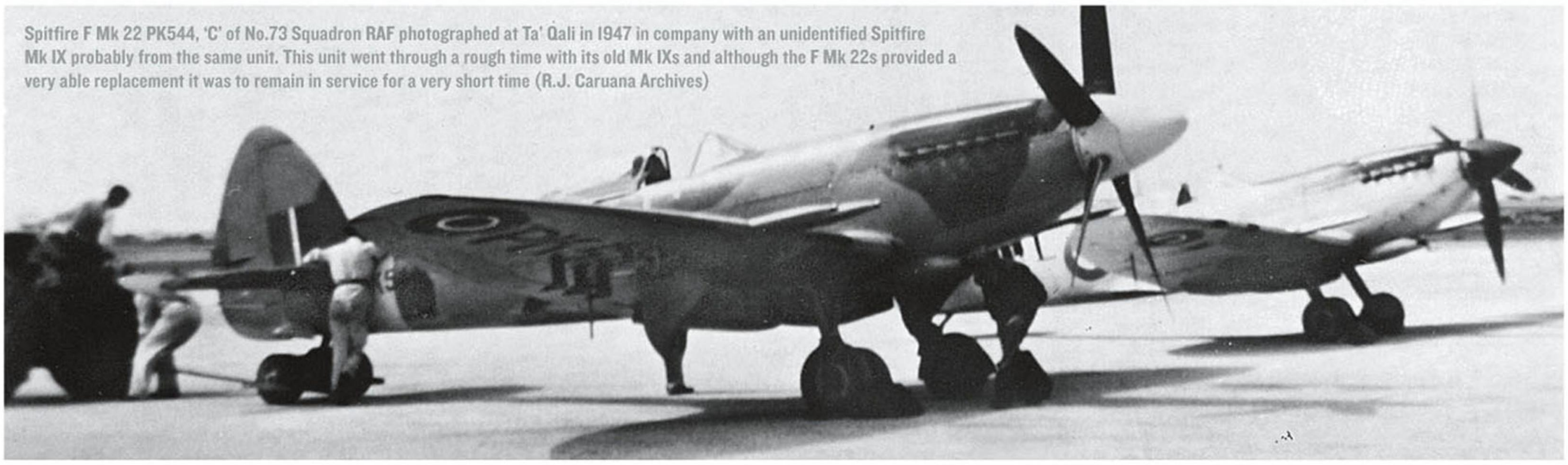
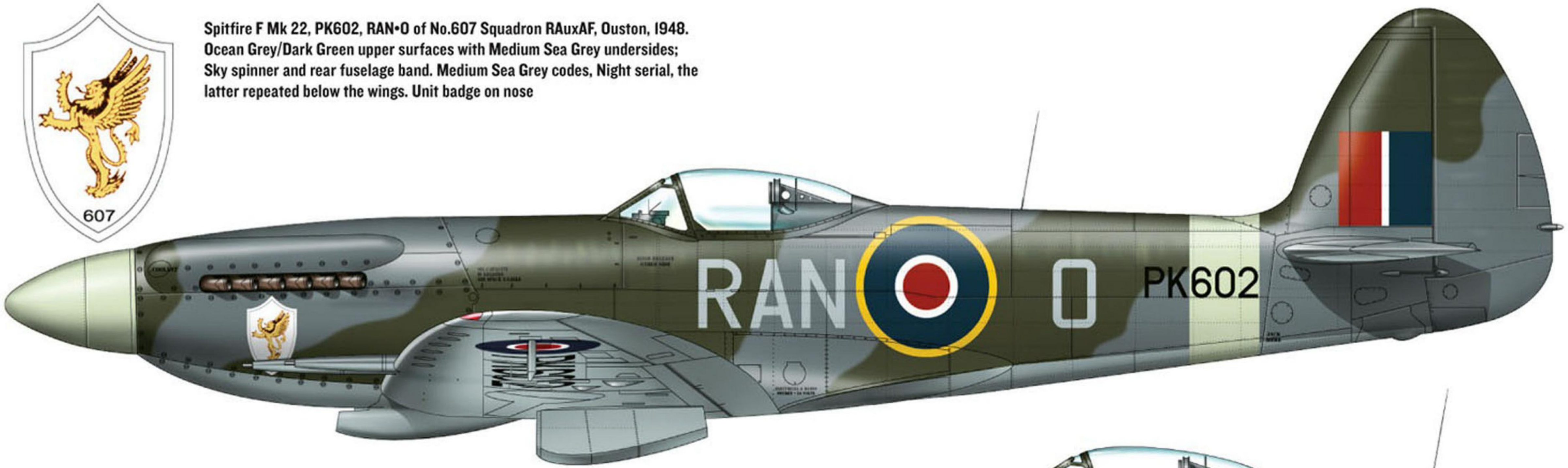


Spitfire F Mk 22 PK544, 'C' of No.73 Squadron RAF photographed at Ta' Qali in 1947 in company with an unidentified Spitfire Mk IX probably from the same unit. This unit went through a rough time with its old Mk IXs and although the F Mk 22s provided a very able replacement it was to remain in service for a very short time (R.J. Caruana Archives)

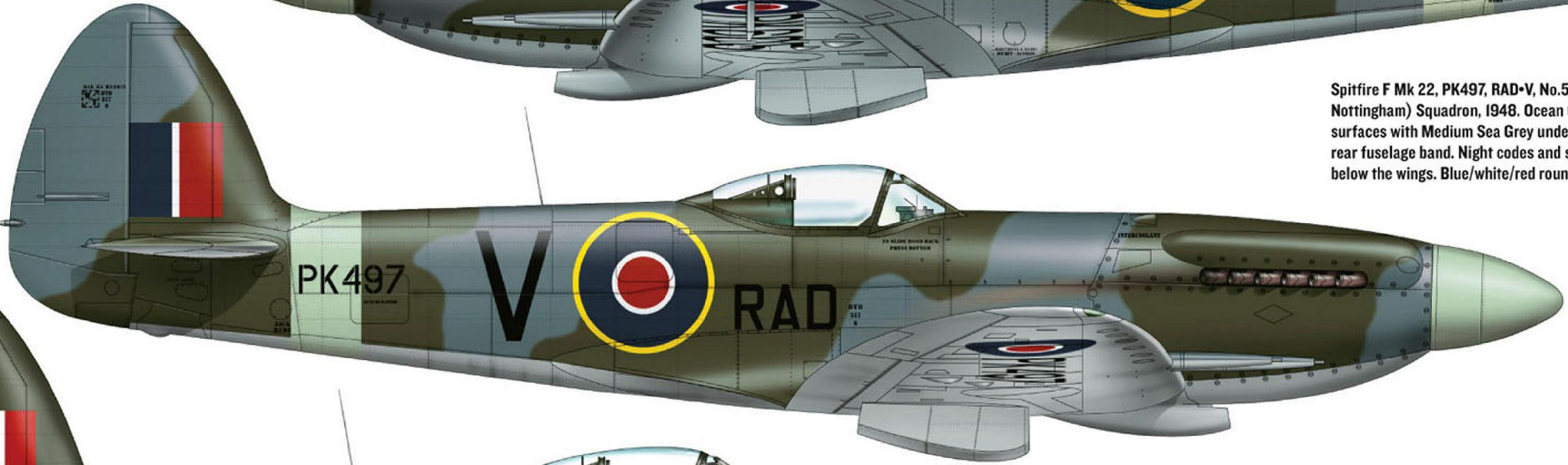
Supermarine Spitfire F Mk 22, SA699/699 of the Royal Egyptian Air Force, recorded staging through Malta in 1950. Note the rocket launcher rails below the wings (Malta Aviation Museum Foundation)

Spitfire F Mk 22, PK602, RAN•O of No.607 Squadron RAuxAF, Ouston, 1948. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. Medium Sea Grey codes, Night serial, the latter repeated below the wings. Unit badge on nose




Spitfire F Mk 22, PK605, V9•T, No.502 Squadron, Aldergrove, 1949. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky rear fuselage band and spinner. Codes in Medium Sea Grey; serials black, repeated below wings; blue/white/red roundels above wings

Spitfire F Mk 22, PK497, RAD•V, No.504 (County of Nottingham) Squadron, 1948. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. Night codes and serial, the latter repeated below the wings. Blue/white/red roundels above the wingsr

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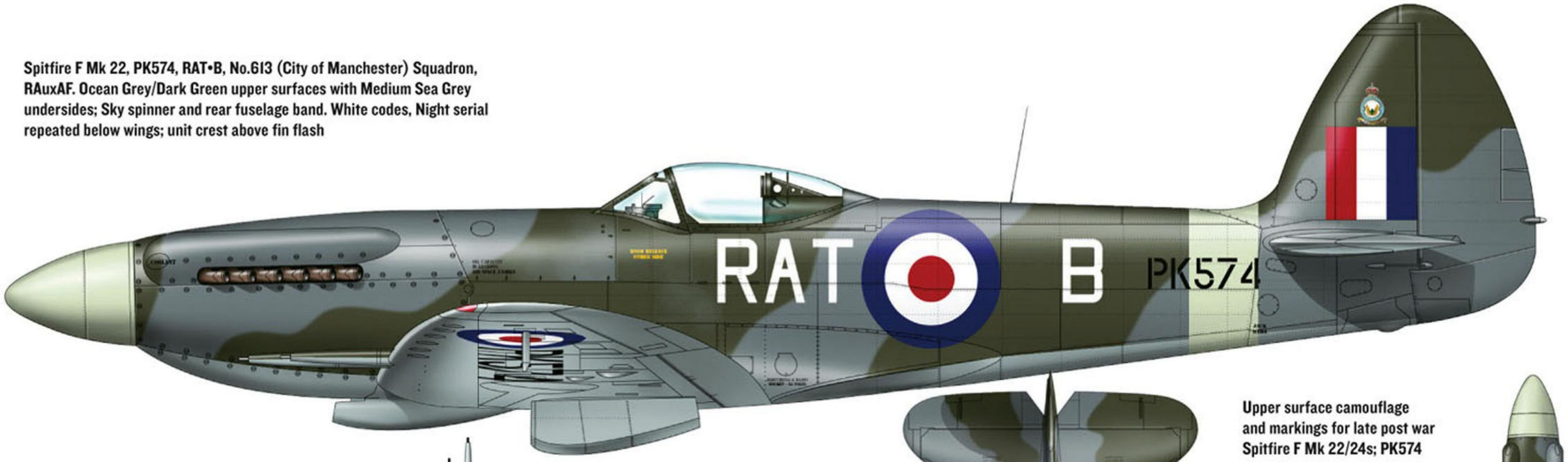
Spitfire F Mk 22, PK674, •L, No.73 Squadron RAF, Ta' Qali (Malta), 1948. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. National markings in bright post-war colours; dark blue/white arrowhead on fuselage sides

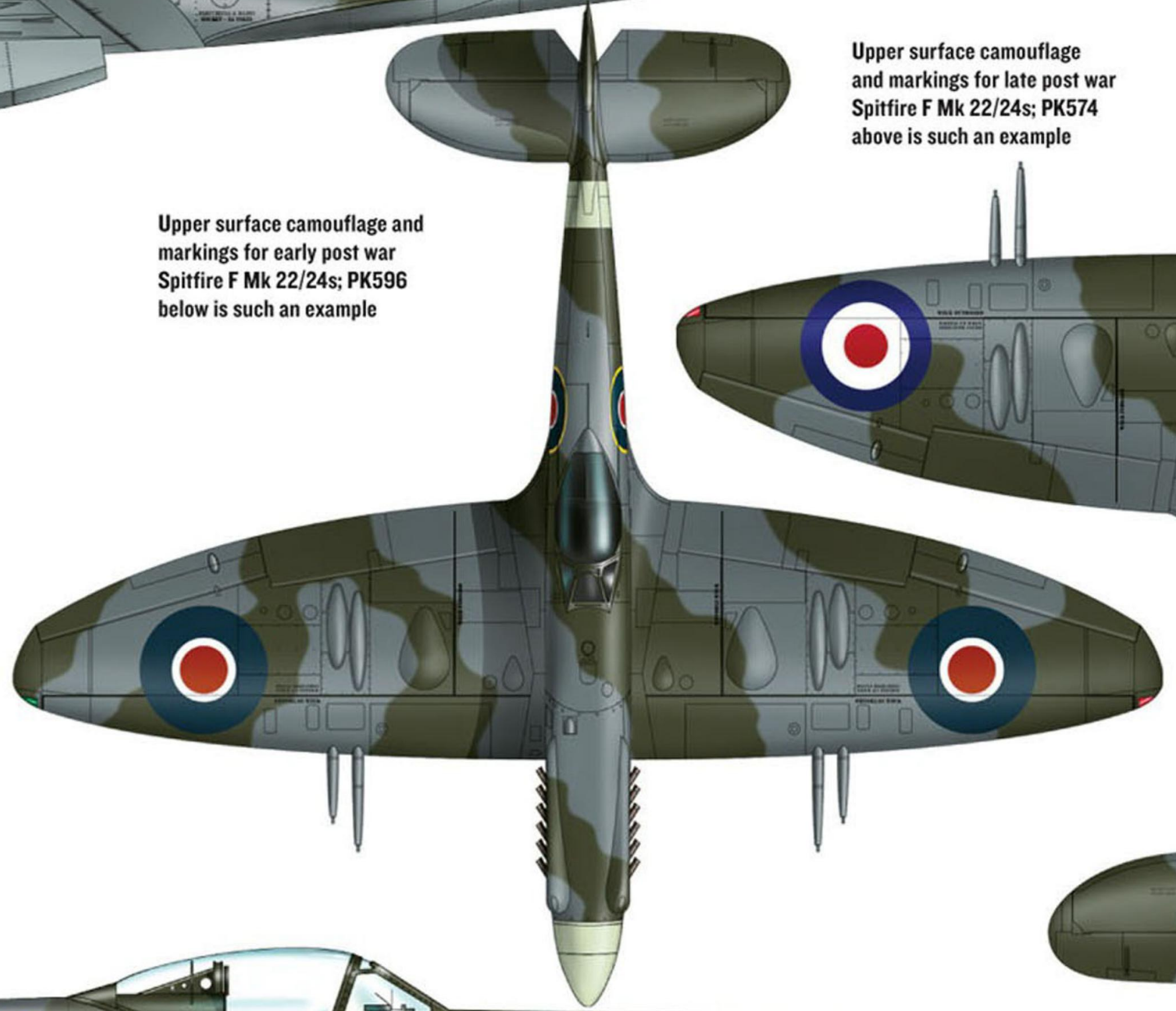
0 metres 1 2
0 feet 3 6
PROFILES 1:48 Scale

Spitfire F Mk 22, PK574, RAT•B, No.613 (City of Manchester) Squadron, RAuxAF. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. White codes, Night serial repeated below wings; unit crest above fin flash

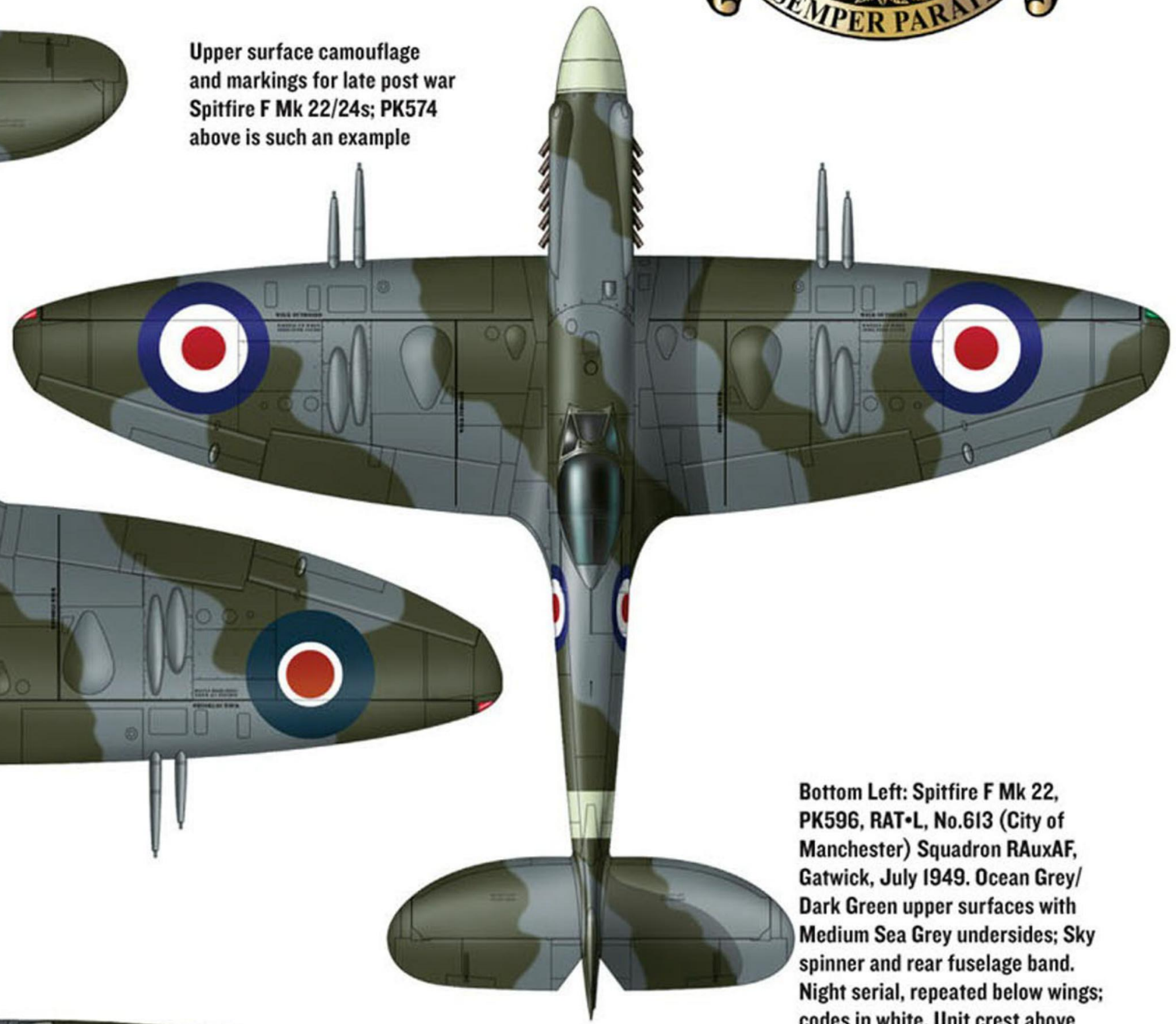


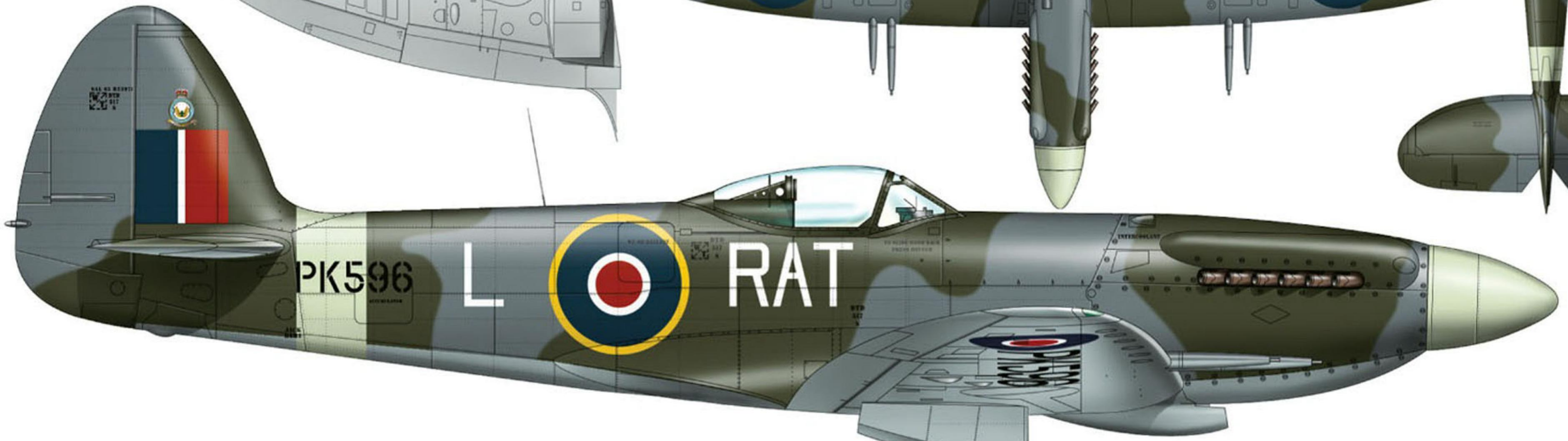
Typical size and position of roundels and serials below the wings; the latter read from the trailing edge below starboard and from leading edge below port

Upper surface camouflage and markings for early post war Spitfire F Mk 22/24s; PK596 below is such an example

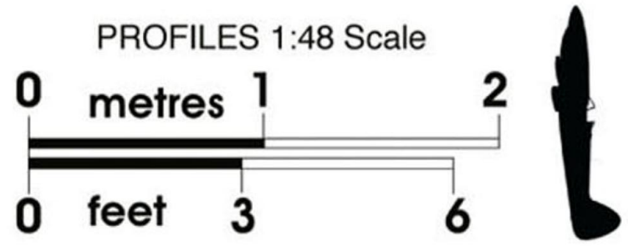


Upper surface camouflage and markings for late post war Spitfire F Mk 22/24s; PK574 above is such an example

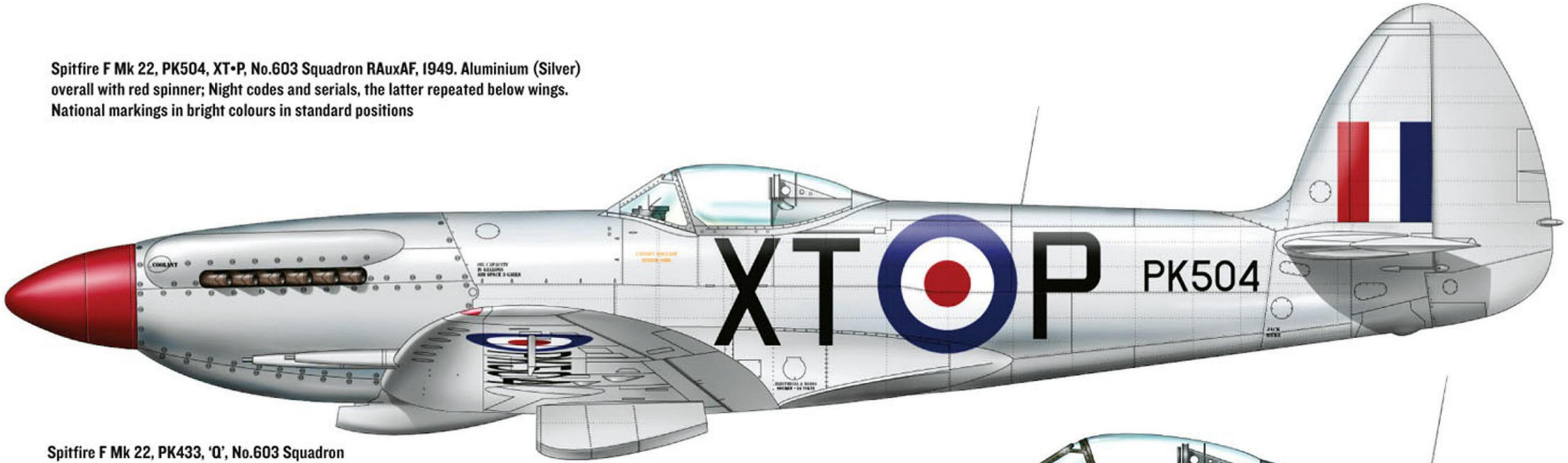





Bottom Left: Spitfire F Mk 22, PK596, RAT•L, No.613 (City of Manchester) Squadron RAuxAF, Gatwick, July 1949. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. Night serial, repeated below wings; codes in white. Unit crest above fin flash



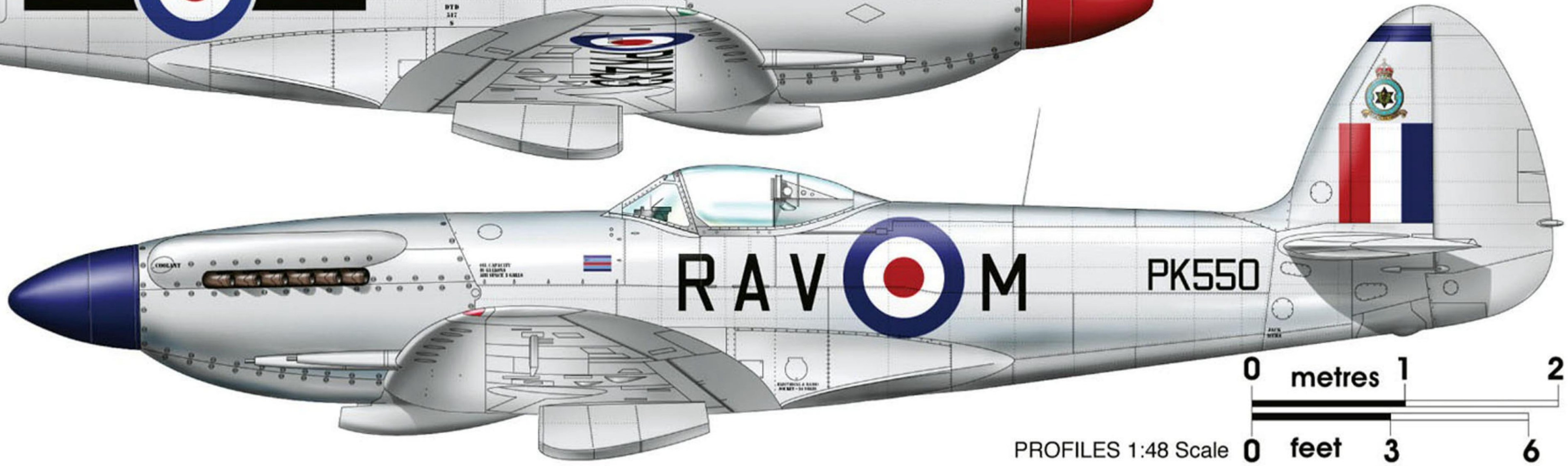
Spitfire F Mk 22, PK504, XT•P, No.603 Squadron RAuxAF, 1949. Aluminium (Silver) overall with red spinner; Night codes and serials, the latter repeated below wings. National markings in bright colours in standard positions




Below: Spitfire F Mk 22, PK519, V6•A, No.615 Squadron RAuxAF, Biggin Hill, 1950. Ocean Grey/ Dark Green upper surfaces with Medium Sea Grey undersides; Yellow spinner and Sky rear fuselage band. White codes, Night serial, the latter repeated below the wings

Spitfire F Mk 22, PK433, 'Q', No.603 Squadron RAuxAF. Aluminium (silver) overall with red spinner; dark and light blue checks with a black bar above and below, flanking fuselage roundel. Black 'Q' on fin, Night serials repeated under the wings. Post-war national roundel in bright colours, in six positions

Spitfire F Mk 22, PK550, RAV•M, flown by Sqn Ldr Peter K. Devitt, OC No.615 Squadron RAuxAF, Biggin Hill, 1950. Aluminium (Silver) overall with national markings in bright colours; codes and serials in black, the latter repeated below the wing. Blue spinner and flash on top of fin; unit crest on fin



PROFILES 1:48 Scale

0 metres 1 2
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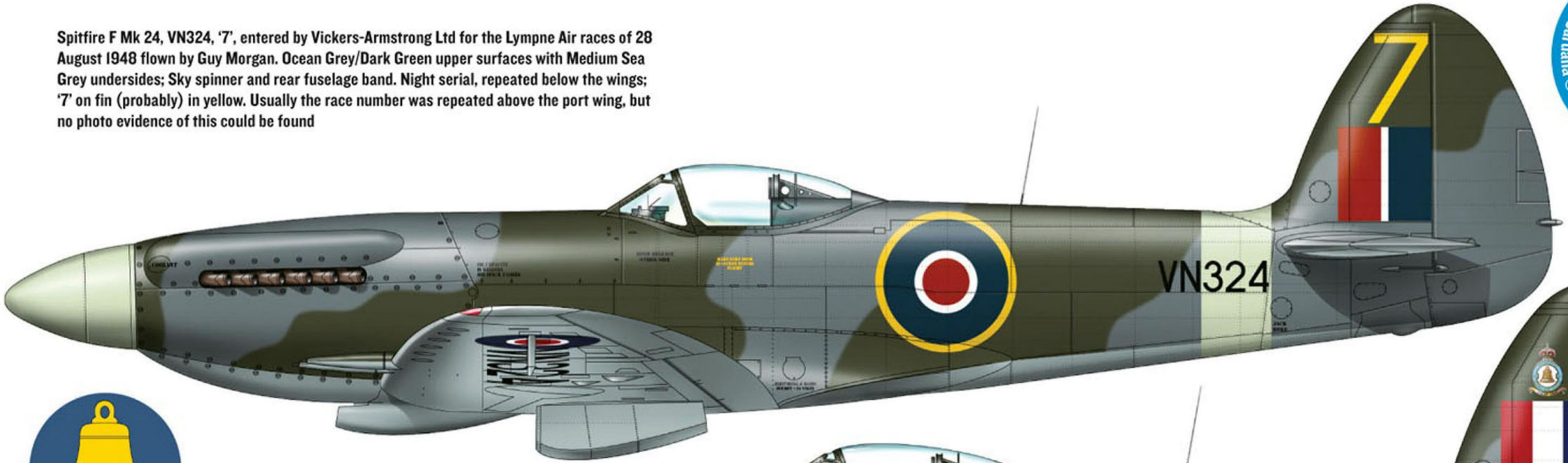
Spitfire F Mk 24, VN324, '7', entered by Vickers-Armstrong Ltd for the Lympne Air races of 28 August 1948 flown by Guy Morgan. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. Night serial, repeated below the wings; '7' on fin (probably) in yellow. Usually the race number was repeated above the port wing, but no photo evidence of this could be found

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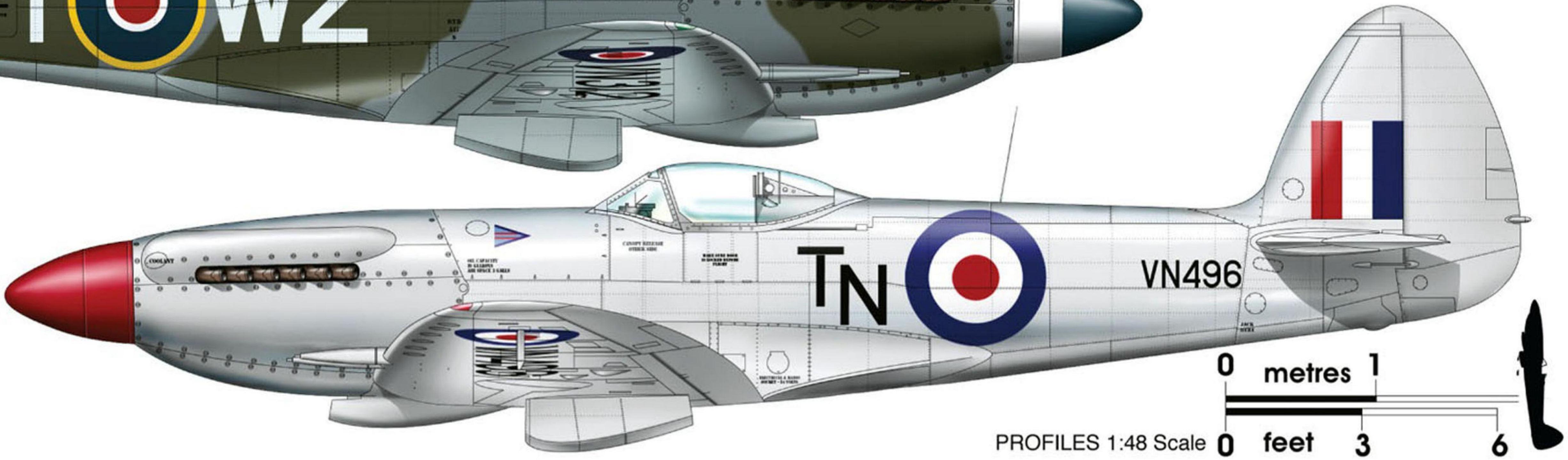
Spitfire F Mk 24, VN309, W2•D, No.80 Squadron FEAF, Kai Tak (Hong Kong), 1950. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Red/White spinner. Night/white rear bands with Night/white serial, the latter repeated in Night below wings; unit crest on fin. White codes, national markings in bright colours. Photo evidence indicates that this aircraft did not carry the wing bands

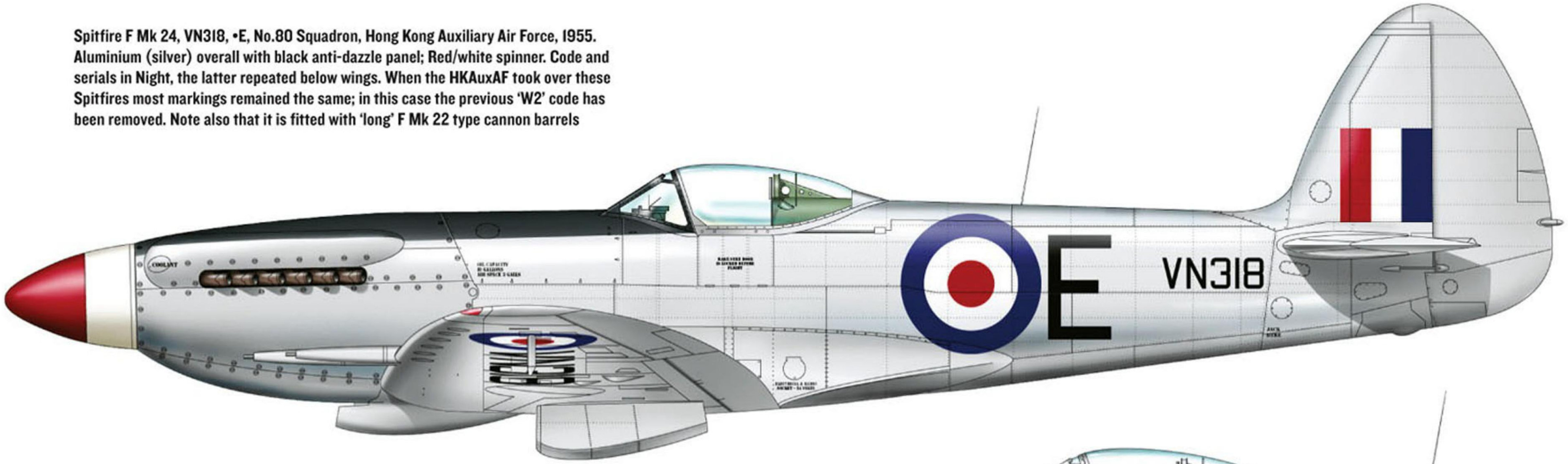
Spitfire F Mk 24, VN312, W2•Y, No.80 Squadron RAF, BAFO Germany, 1948. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky rear fuselage band. Night serial, repeated below the wings; blue/white/red roundels above and below wings. Sky Blue codes, unit badge on fin (both sides). White/blue spinner

Spitfire F Mk 24, VN496, TN•, flown by Wing Commander 'Tiny' Nel, OC Flying, Kai Tak. Natural metal overall with red spinner; black codes and serial, the latter repeated below the wings. National markings in bright colours; rank pennant ahead of windscreen

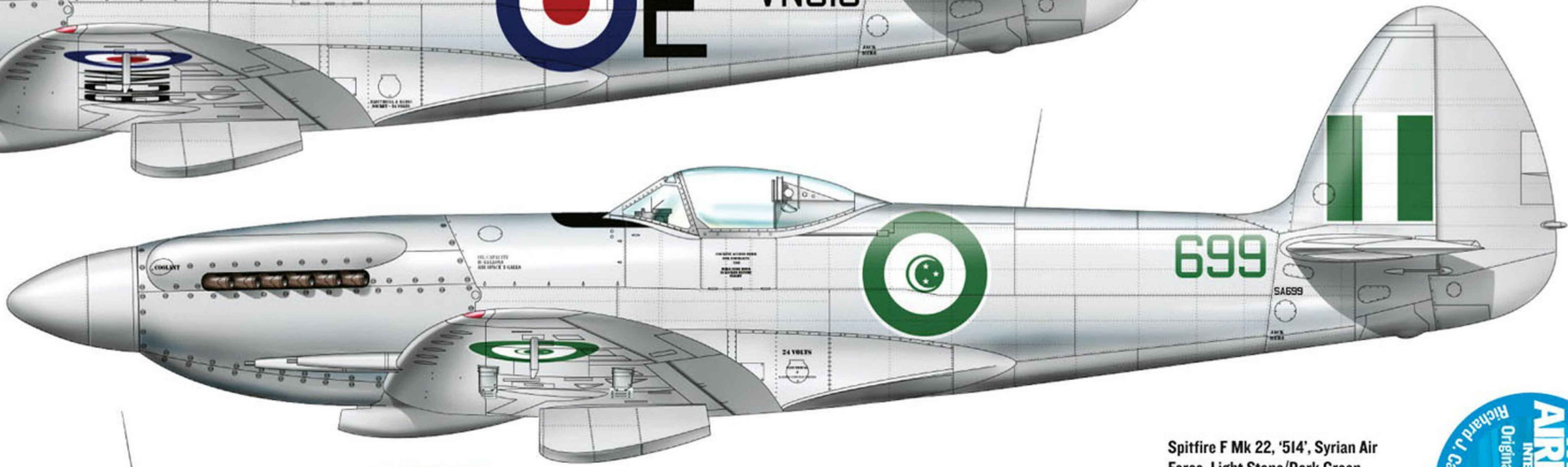



PROFILES 1:48 Scale

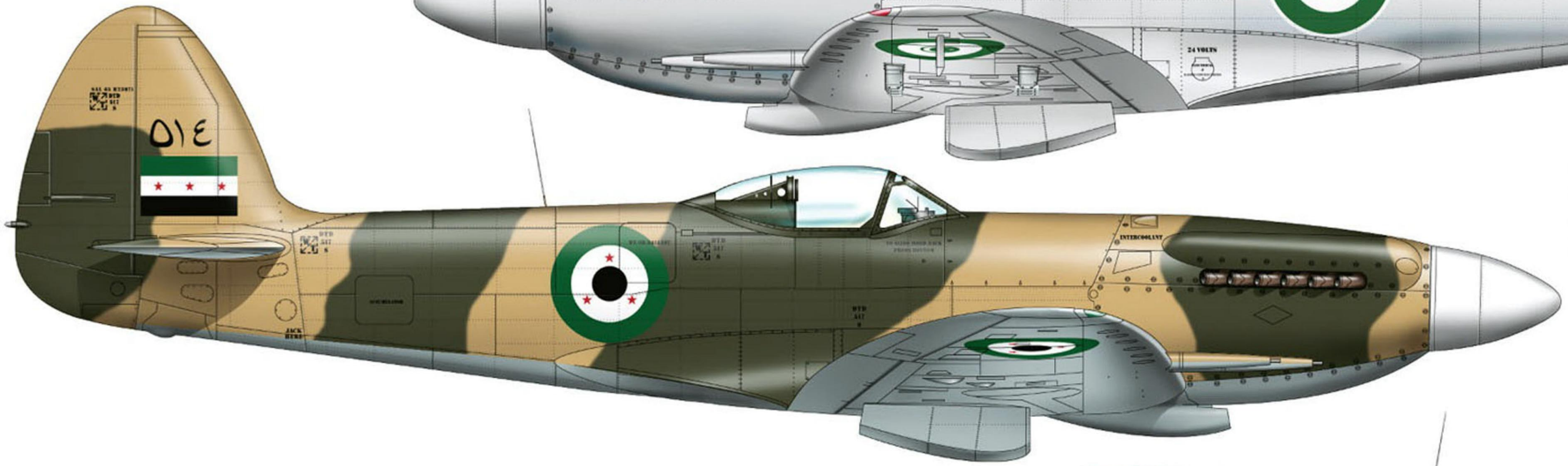
Spitfire F Mk 24, VN318, •E, No.80 Squadron, Hong Kong Auxiliary Air Force, 1955. Aluminium (silver) overall with black anti-dazzle panel; Red/white spinner. Code and serials in Night, the latter repeated below wings. When the HKAuxAF took over these Spitfires most markings remained the same; in this case the previous 'W2' code has been removed. Note also that it is fitted with 'long' F Mk 22 type cannon barrels



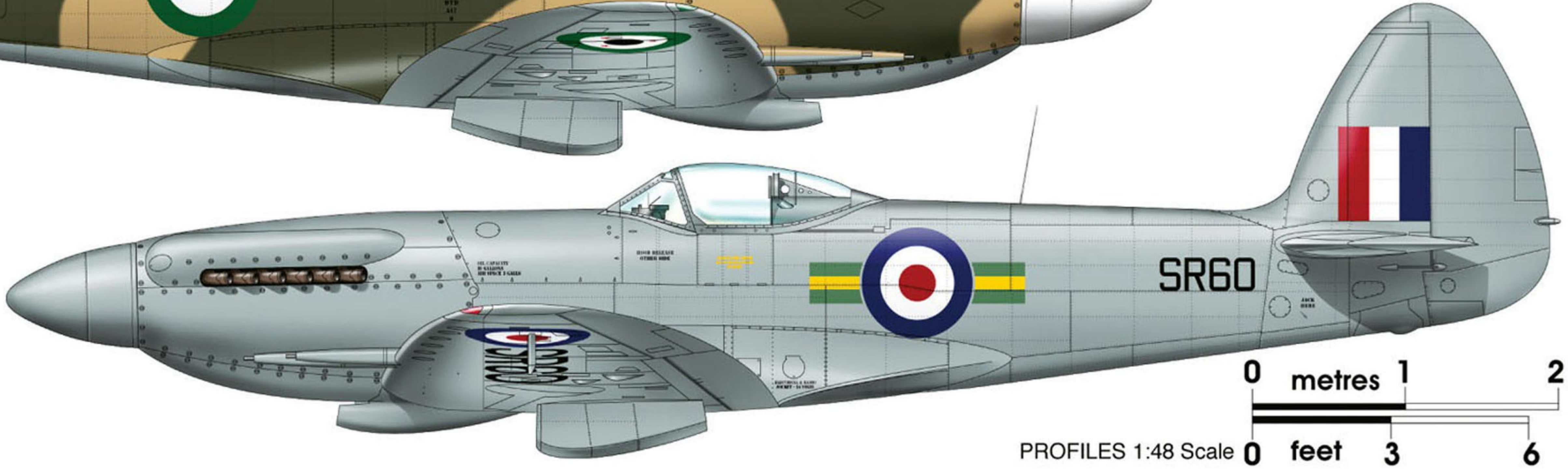

Below: Spitfire F Mk 22, SA699, '699', Royal Egyptian Air Force, recorded staging through Malta in 1950. Silver overall with a small black anti-dazzle panel ahead of the windscreen; '699' on rear fuselage in green; all national markings outlined in white. Fin flash is also outlined in white; 'SA699' in small lettering below tailplane. Note rocket rail attachments below wings




Spitfire F Mk 22, '514', Syrian Air Force. Light Stone/Dark Green upper surfaces with Medium Sea Grey undersides; national markings in six positions. Black serial above fin flash; white spinner




Spitfire F Mk 22, SR60, No.1 (Auxiliary Air Force) Squadron, Southern Rhodesian Air Force, Cranborne, 1951. Medium Sea Grey overall; RAF roundels in six positions with those on fuselage sides being flanked by green and yellow bars. Serial in black, repeated below both wings




PROFILES 1:48 Scale
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General Motors-built F-84F-41-GK Thunderstreak, S/No.52-8815, '815', No.339 Squadron, 117 Wing, Hellenic Air Force. Natural metal overall with Dark Green anti-dazzle panel; all lettering in black. Yellow/red/yellow bands around nose; aircraft still carries badge abovve the nose code of its previous squadron, No.336

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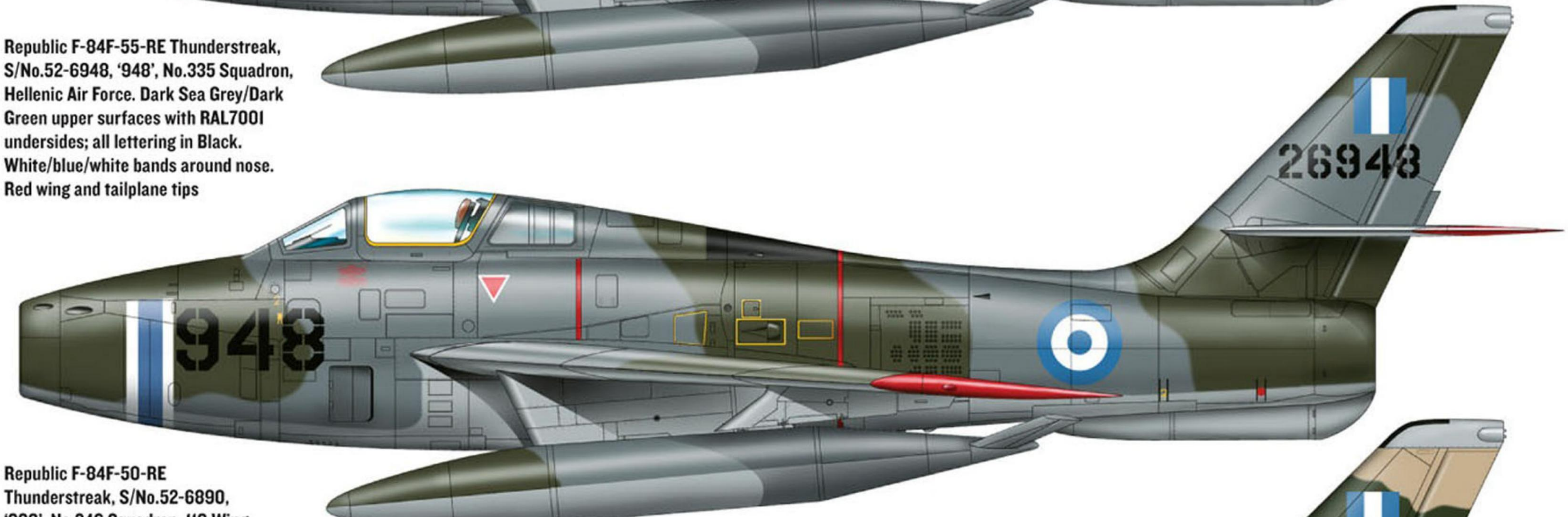
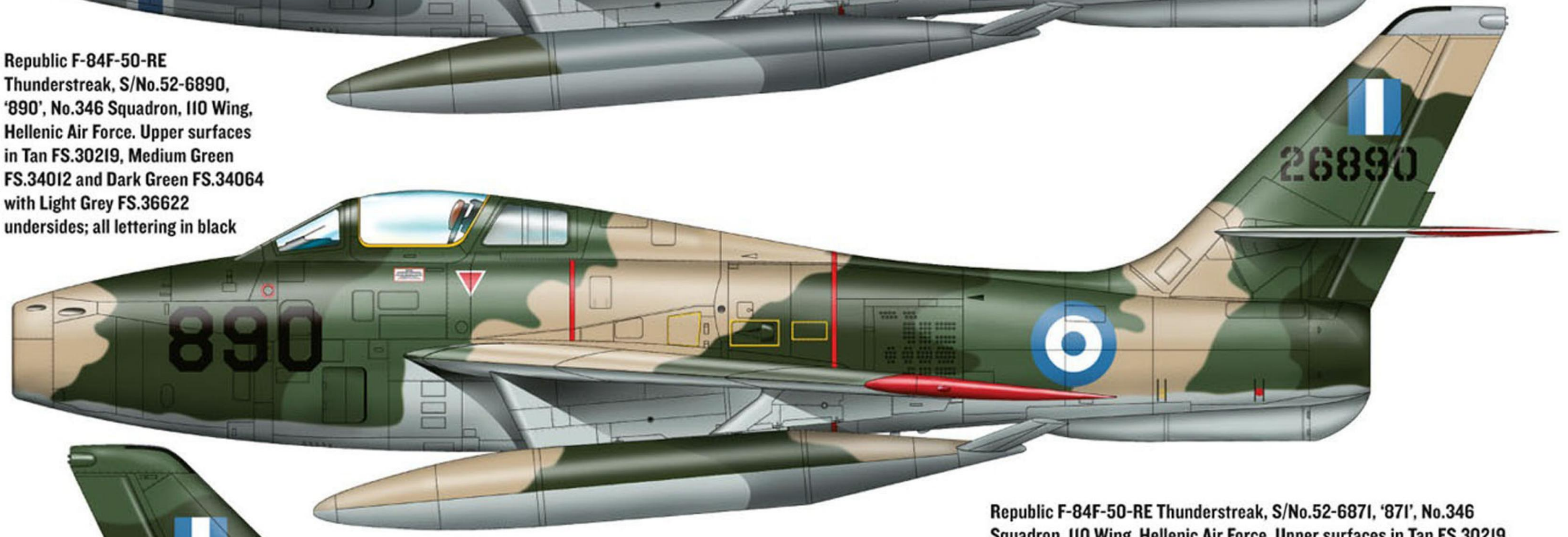
Republic F-84F-40-RE Thunderstreak S/No.52-6621, '621', No.340 Squadron, Hellenic Air Force. Dark Green/Dark Sea Grey upper surfaces with RAL7001 undersides; all lettering in black. Wing and tailplane tips in red

Republic F-84F-55-RE Thunderstreak, S/No.52-6948, '948', No.335 Squadron, Hellenic Air Force. Dark Sea Grey/Dark Green upper surfaces with RAL7001 undersides; all lettering in Black. White/blue/white bands around nose. Red wing and tailplane tips

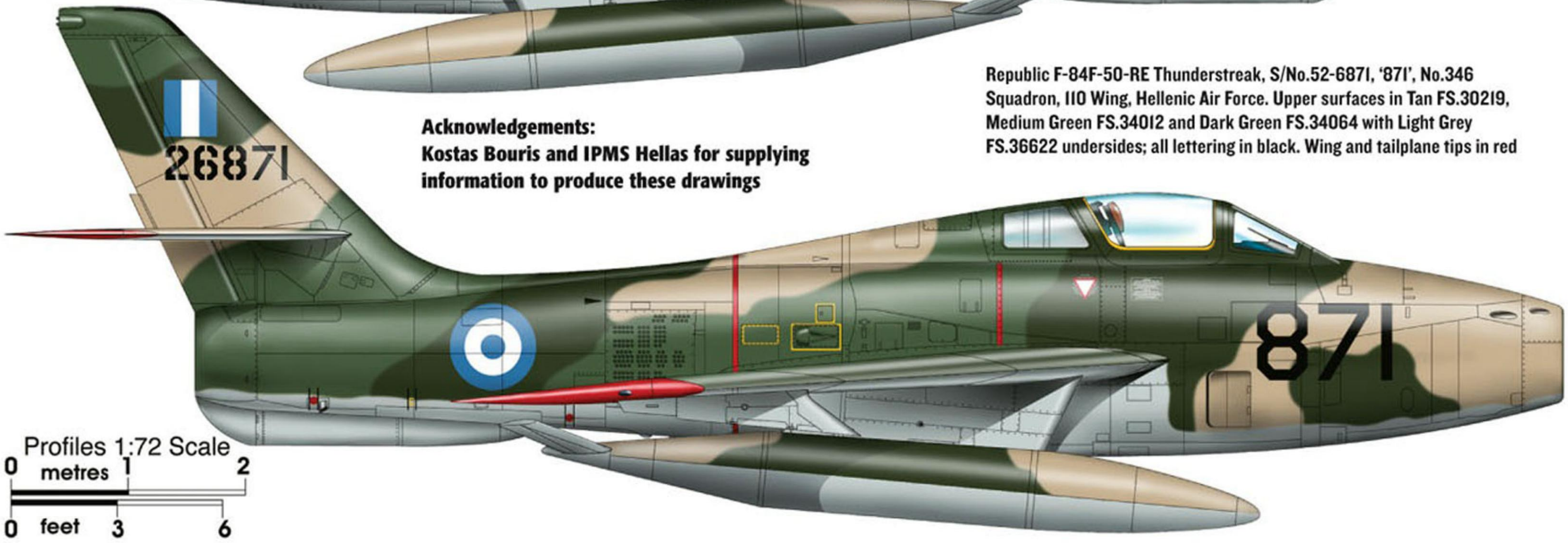



Republic F-84F-50-RE Thunderstreak, S/No.52-6890, '890', No.346 Squadron, 110 Wing, Hellenic Air Force. Upper surfaces in Tan FS.30219, Medium Green FS.34012 and Dark Green FS.34064 with Light Grey FS.36622 undersides; all lettering in black




Republic F-84F-50-RE Thunderstreak, S/No.52-6871, '871', No.346 Squadron, 110 Wing, Hellenic Air Force. Upper surfaces in Tan FS.30219, Medium Green FS.34012 and Dark Green FS.34064 with Light Grey FS.36622 undersides; all lettering in black. Wing and tailplane tips in red

**Acknowledgements:**
**Kostas Bouris and IPMS Hellas for supplying information to produce these drawings**




Profiles 1:72 Scale
0 metres 1 2
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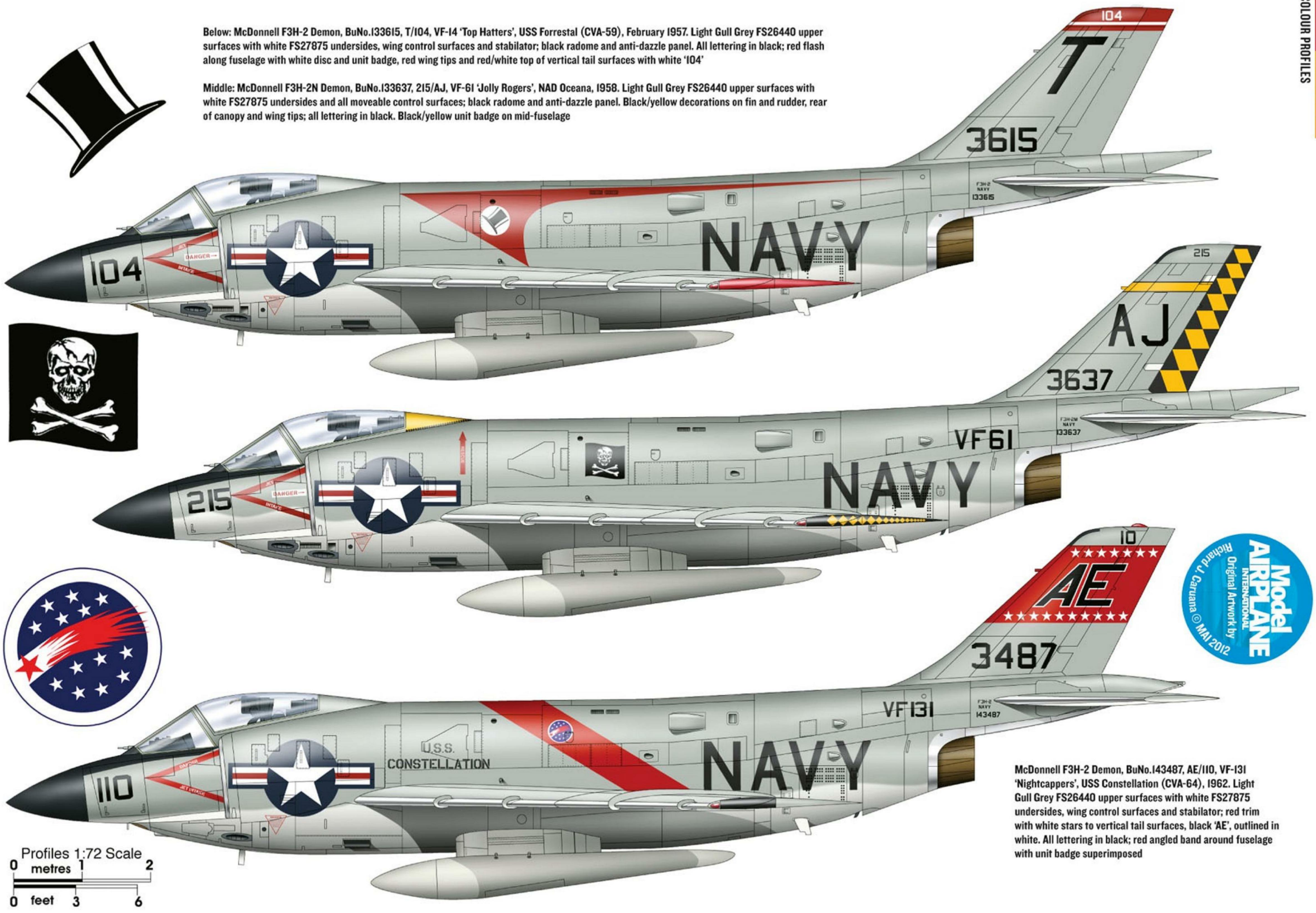
Below: McDonnell F3H-2 Demon, BuNo.133615, T/104, VF-14 'Top Hatters', USS Forrestal (CVA-59), February 1957. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides, wing control surfaces and stabilator; black radome and anti-dazzle panel. All lettering in black; red flash along fuselage with white disc and unit badge, red wing tips and red/white top of vertical tail surfaces with white '104'

Middle: McDonnell F3H-2N Demon, BuNo.133637, 215/AJ, VF-61 'Jolly Rogers', NAD Oceana, 1958. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; black radome and anti-dazzle panel. Black/yellow decorations on fin and rudder, rear of canopy and wing tips; all lettering in black. Black/yellow unit badge on mid-fuselage

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McDonnell F3H-2 Demon, BuNo.143487, AE/110, VF-131 'Nightcappers', USS Constellation (CVA-64), 1962. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides, wing control surfaces and stabilator; red trim with white stars to vertical tail surfaces, black 'AE', outlined in white. All lettering in black; red angled band around fuselage with unit badge superimposed

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

Model AIRPLANE INTERNATIONAL

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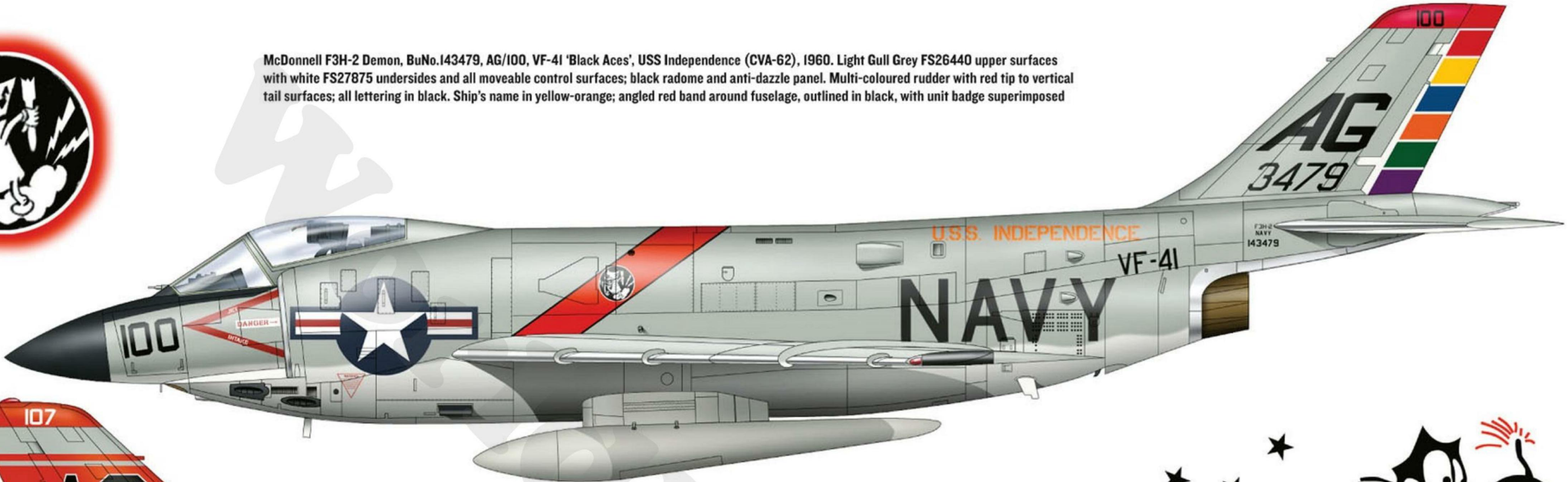
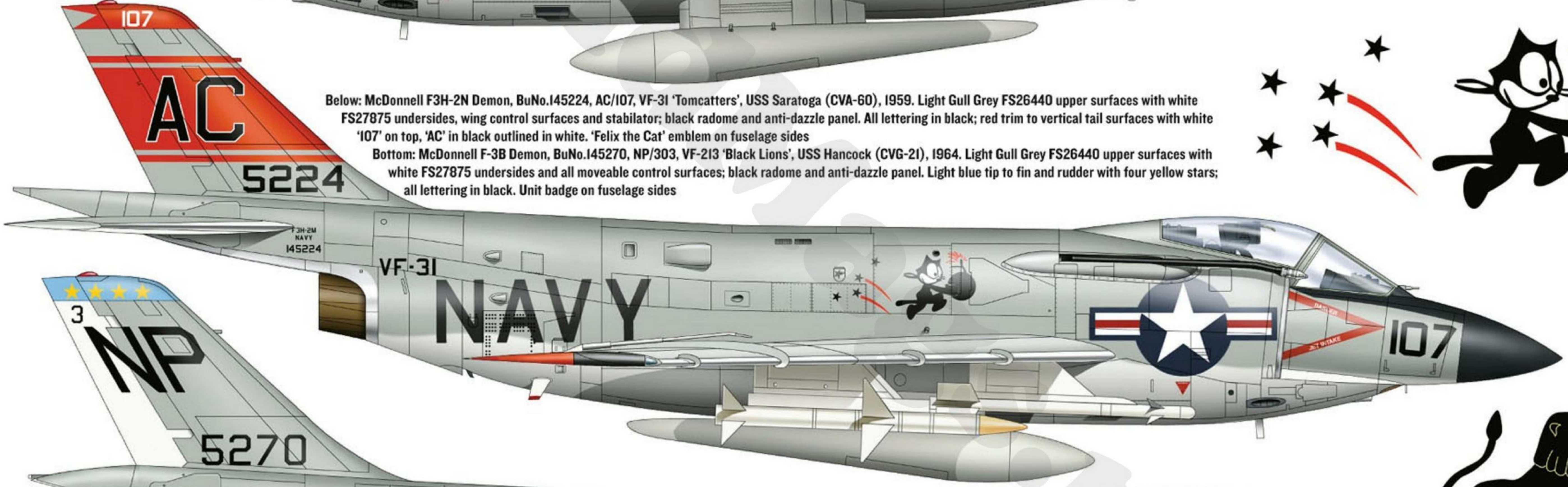
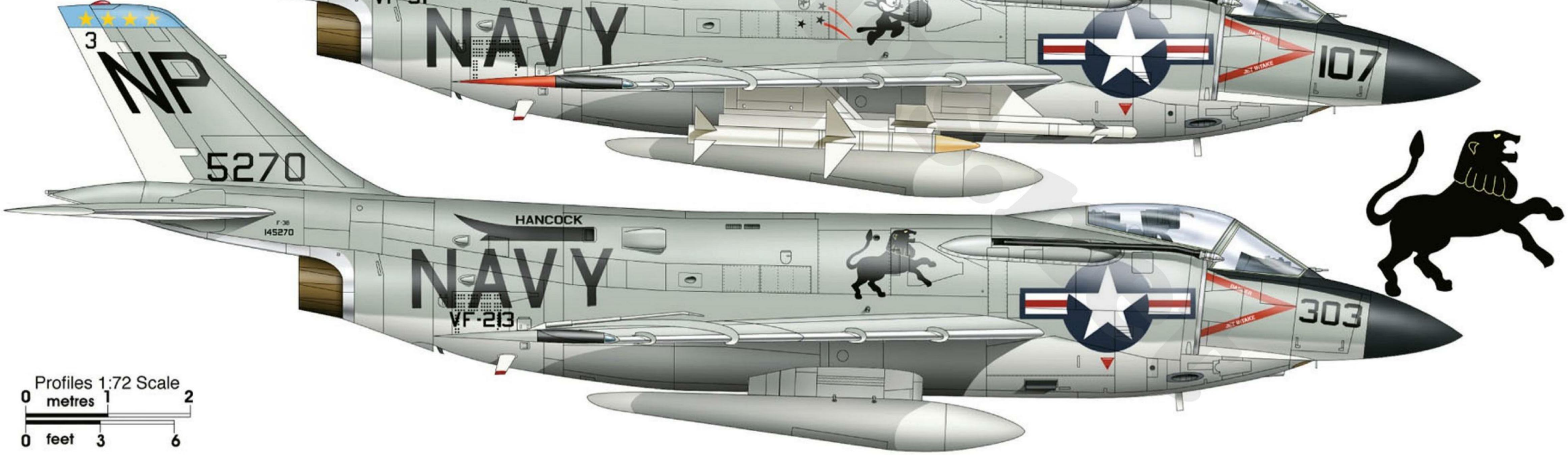
McDonnell F3H-2 Demon, BuNo.143479, AG/100, VF-41 'Black Aces', USS Independence (CVA-62), 1960. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; black radome and anti-dazzle panel. Multi-coloured rudder with red tip to vertical tail surfaces; all lettering in black. Ship's name in yellow-orange; angled red band around fuselage, outlined in black, with unit badge superimposed



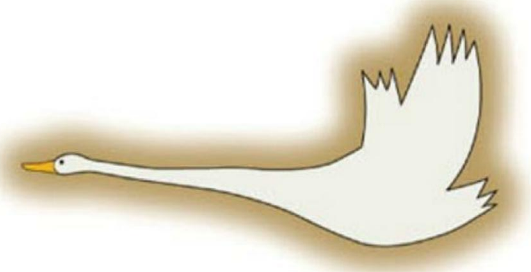

Below: McDonnell F3H-2N Demon, BuNo.145224, AC/107, VF-31 'Tomcatters', USS Saratoga (CVA-60), 1959. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides, wing control surfaces and stabilator; black radome and anti-dazzle panel. All lettering in black; red trim to vertical tail surfaces with white '107' on top, 'AC' in black outlined in white. 'Felix the Cat' emblem on fuselage sides

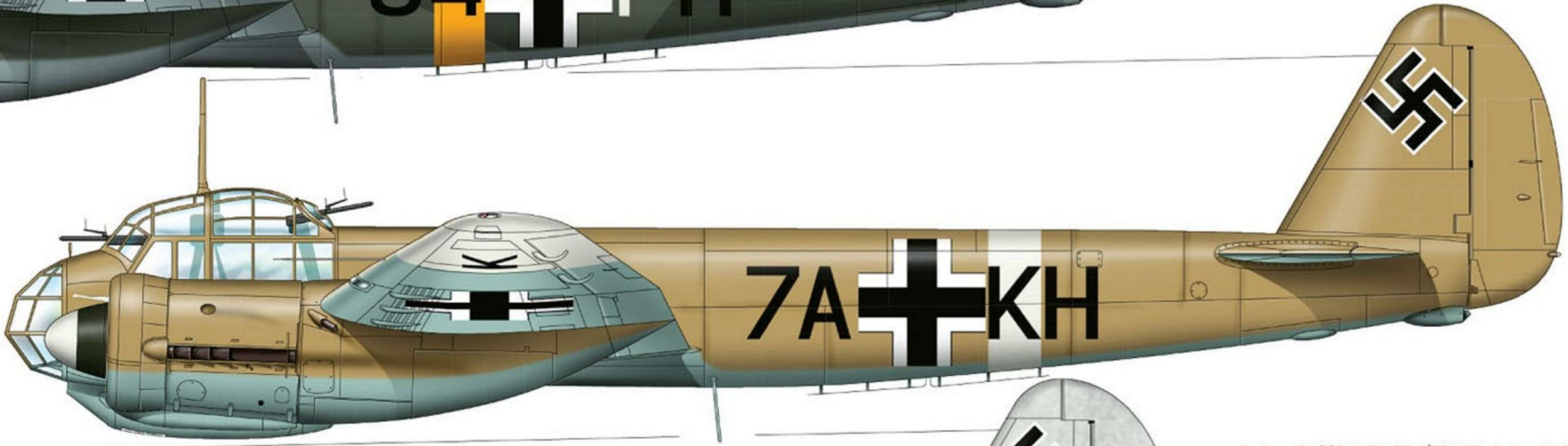
Bottom: McDonnell F-3B Demon, BuNo.145270, NP/303, VF-213 'Black Lions', USS Hancock (CVG-21), 1964. Light Gull Grey FS26440 upper surfaces with white FS27875 undersides and all moveable control surfaces; black radome and anti-dazzle panel. Light blue tip to fin and rudder with four yellow stars; all lettering in black. Unit badge on fuselage sides



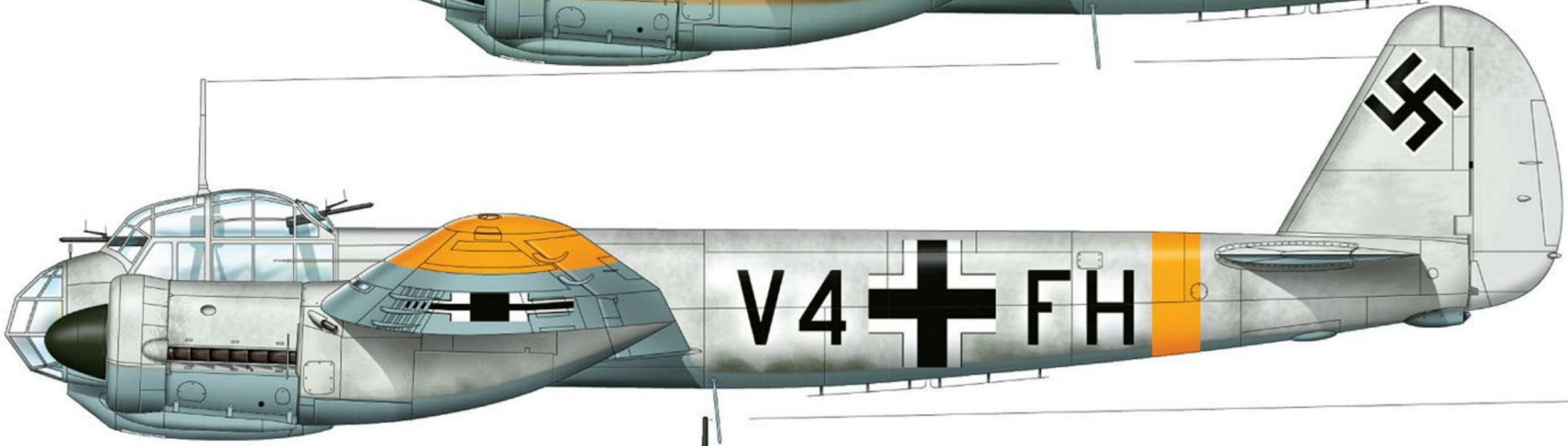



Junkers Ju 88A-4, S4+FH, I./Ku.Fl.Gr.506, Pori (Finland), 1941. RLM 70/71 upper surfaces with RLM 65 undersides; RLM 04 underside of wing tips and band around fuselage. Lettering in black with white 'F'; unit badge on nose (both sides)






Junkers Ju 88A-4/Trop, 7A+KH, ISt(F)/121, North Africa. RLM 78/79 finish. White/RLM 70 spinner; white underside of wing tips and rear fuselage band. Black lettering with 'K' repeated below the wings. White swan marking on nose




Junkers Ju 88A-4, V4+FH, I/KG.1 'Hindenburg', shot down near Dawydocka (Russia), 12 January 1943. Temporary white applied over the upper RLM 70/71; undersides in RLM 65. Codes in black; RLM 04 band around rear fuselage and undersides of wing tips. RLM 70 spinners

Junkers Ju 88A-4, B3+LR, 7./KG 54, Bergamo (Northern Italy), late 1943. RLM 70/71 uppersurfaces, sprayed with a wave mirror of RLM 76; RLM 65 undersurfaces sprayed with a wave mirror of RLM 70. White rudder and underside of wingtips; RLM 04 band around black spinner. 'L' of code is outlined in white

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6



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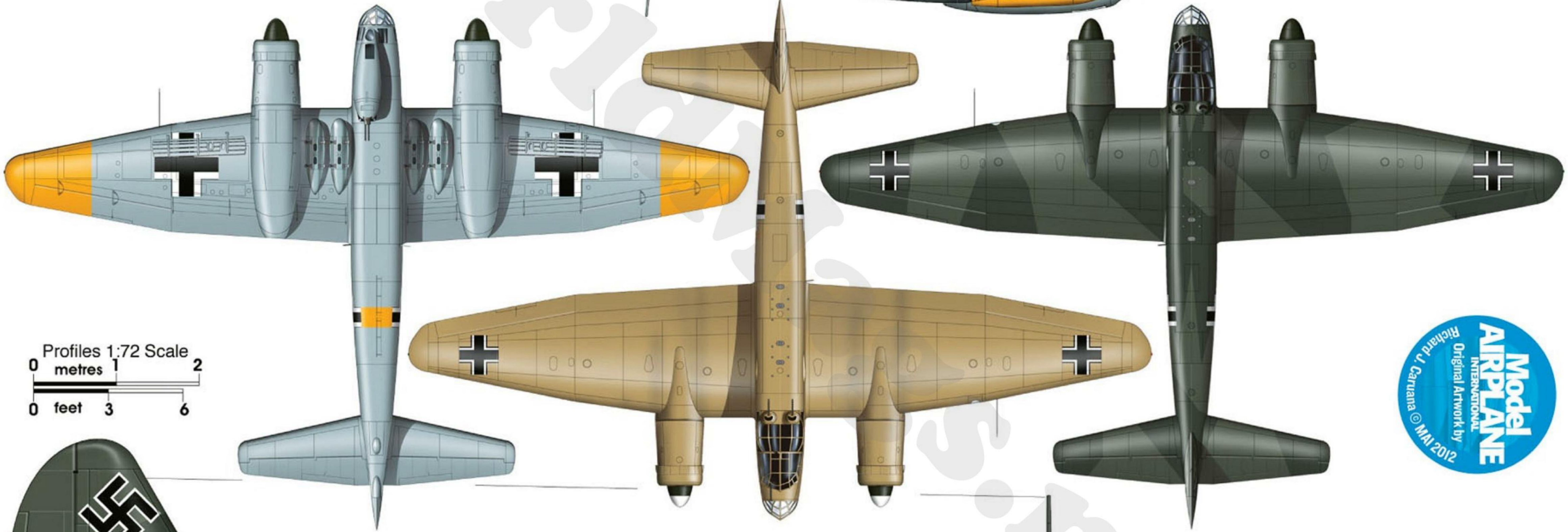
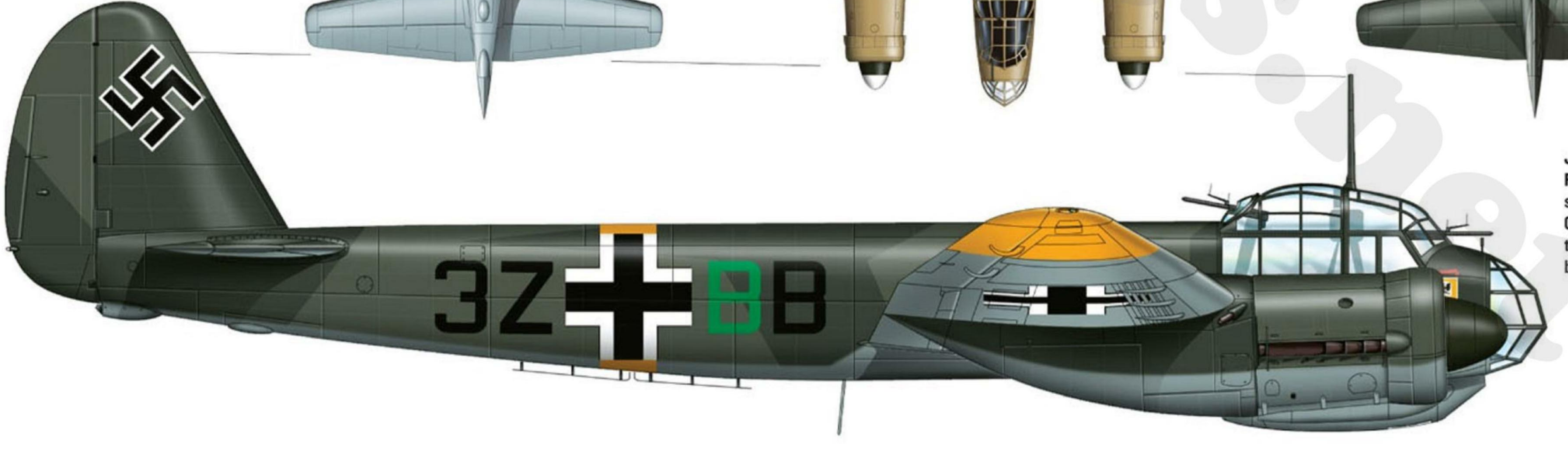
Junkers Ju 88A-4, B3+EK, 2./KG 54, Russia, 1943. RLM 70/71 upper surfaces with RLM 65 undersides; RLM 04 underside of wing tips and engine cowlings. Spinners in red and RLM 70 with a thin white dividing line. Codes in black with red 'E' outlined in white. Unit badge on nose (both sides)



Junkers Ju 88A-4, 3Z+BB, Stab I./KG 77, Russian Front, 1942. RLM 70/71 upper surfaces with RLM65 undersides; RLM 04 fuselage band and underside of wing tips. Codes in black with green 'B'; unit badge on nose both sides (not handed)

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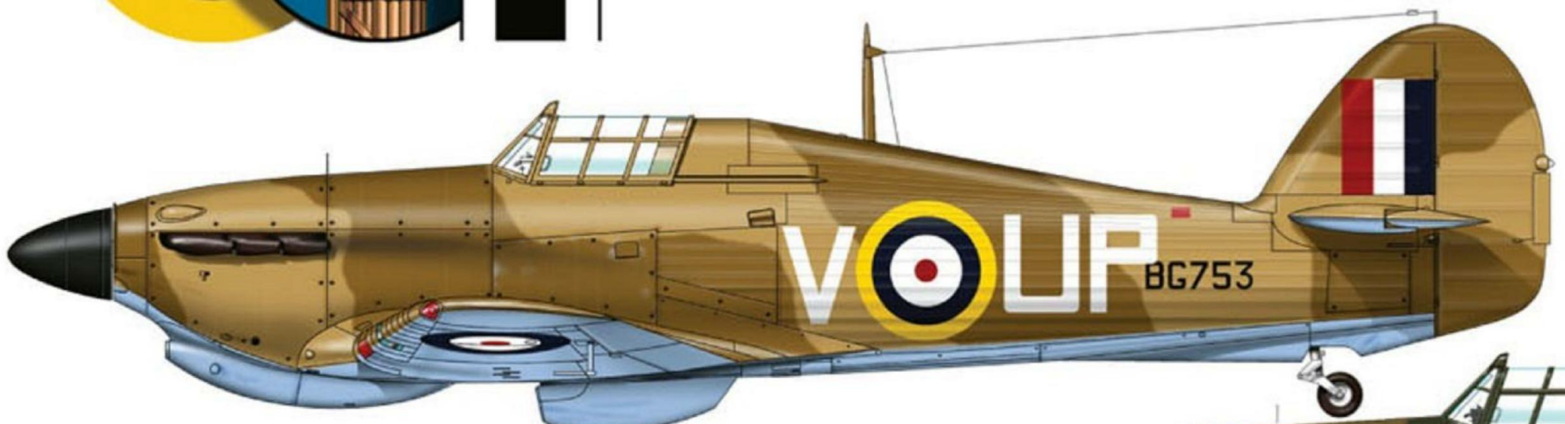
# The Battle for Malta
## Award of the George Cross

When the Second Siege of Malta began in January 1942 only Hurricane squadrons were available for Malta's defence. Most of these had been delivered through *Operations Status II* (47 Hurricanes; September 1941) and *Perpetual* (37 Hurricanes; November 1941). These had to stand their ground until the arrival of the first Spitfires delivered by *Operation Spotter* in March 1942




Above: Hawker Hurricane Mk IIb, BG753, V•UP, No.605 Squadron, March 1942. Delivered by HMS Argus in November 1941

Hawker Hurricane Mk IIb, Z2961, •K, flown by Sgt G.E. Horicks of No.185 Squadron, Ta' Qali, late March 1942.

Above: Hawker Hurricane Mk IIa, Z2402, GL•P, No.185 Squadron, Hal Far, 1942

BUCKINGHAM PALACE

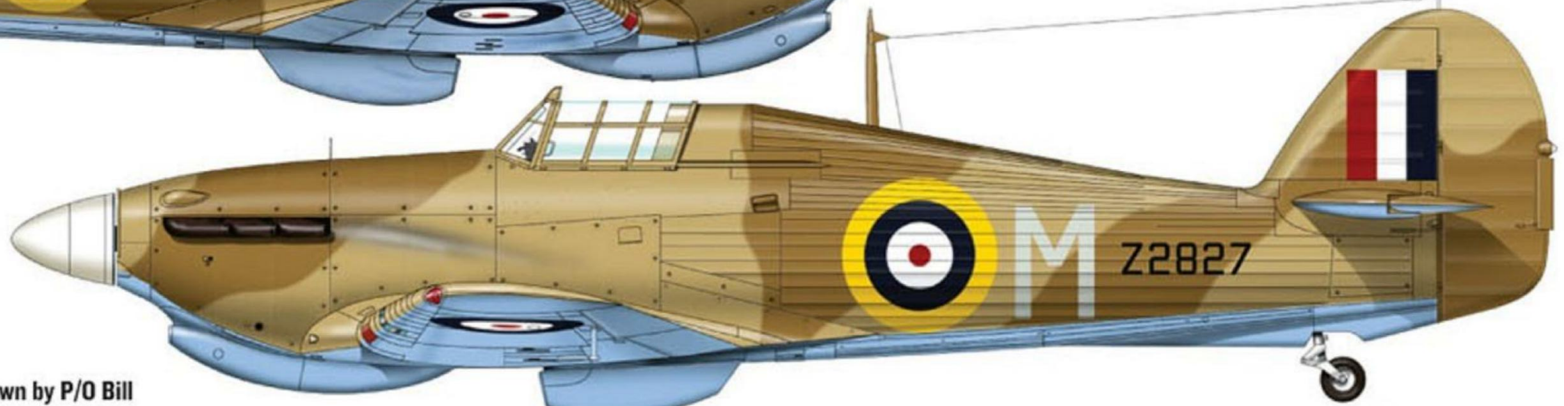
The Governor
Malta.

To honour her brave people I award the George Cross to the Island Fortress of Malta to bear witness to a heroism and devotion that will long be famous in history.

George R.I.

April 15th 1942.

Right: The Citation hand-written by H.M. King George VI on 15th April 1942, awarding the George Cross to the 'Island Fortress of Malta'




Right: Hawker Hurricane Mk IIa, Z2827, •M, Malta Night Fighter Unit, January 1942

Hawker Hurricane Mk.IIb, HA•E, 'Death Warmed Up', flown by P/O Bill Hollis Hallett, No.261 Squadron, March 1942. Hollis was killed together with five other officers when a bomb exploded at the Hotel Point de Vue, Rabat, where many Ta' Qali pilots were billeted

Hawker Hurricane Mk.IIc, BE402, LE•S, No.242 Squadron, 1942

Hurricanes earmarked for Malta were among the first to be delivered in the 'desert' scheme of Dark Earth/Mid Stone/Azure Blue finish; however due to attrition and the pressure to send reinforcements, standard 'BoB' style finished Hurricanes in Dark Earth/Dark Green/Sky finish were also sent to Malta

Profiles 1:72 Scale
metres 0 1 2
feet 0 3 6

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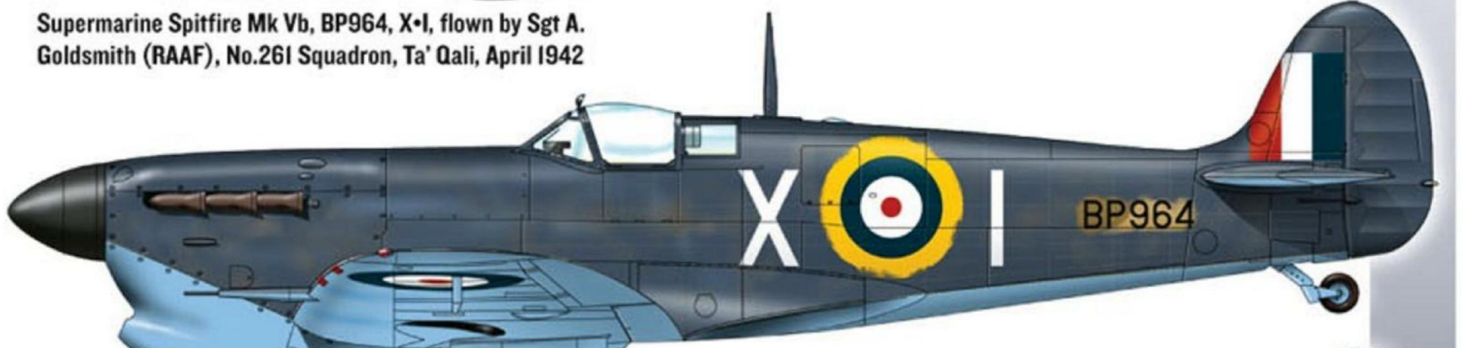
# The Battle for Malta – Award of the George Cross

Supermarine Spitfire Mk V, AB262, GN•B, flown by Flt Lt P.W.E. Heppell (DFC), section leader No.249 Squadron. Heppell claimed the first Spitfire victory over Malta on 10 March 1942, a Messerschmitt Bf 109 of 8./JG53 flown by Fe Heinz Rahlmeier ('Black 11', W/Nr.7600)

Supermarine Spitfire Mk Vb, BR124, U•2, No.603 Squadron, Operation Calendar, USS Wasp, 20 April 1942

Supermarine Spitfire Mk Vb, BR294, GL•E, No.185 Squadron, Hal Far, April 1942




Supermarine Spitfire Mk Vb, BP964, X•1, flown by Sgt A. Goldsmith (RAAF), No.261 Squadron, Ta' Qali, April 1942

Supermarine Spitfire Mk Vb, AB451, GN•T, flown by F/O George Buchanan, No.249 Squadron, Ta' Qali, April 1942

Supermarine Spitfire Mk.Vc, BP975, K•1, flown by Flt Lt Denis Barnham, No.601 Squadron, Luqa, April 1942

Supermarine Spitfire Mk Vb, BR344, 3•M, *Operation Bowery*, USS Wasp, 9th May 1942

Supermarine Spitfire Mk Vb, AB264, GN•H, flown by P/O Peter Nash, No.249 Squadron, Ta' Qali, May 1942

Profiles 1:72 Scale

0 METRES 1 2
0 FEET 3 6

Supermarine Spitfire Mk Vc, BR136, 3•B, flown off the USS Wasp during *Operation Bowery*, May 1942

Supermarine Spitfire Mk Vc, BR349, 3•C, flown by P/O John Livingston (Tony) Boyd, No.185 Squadron RAF, Hal Far, May 1942



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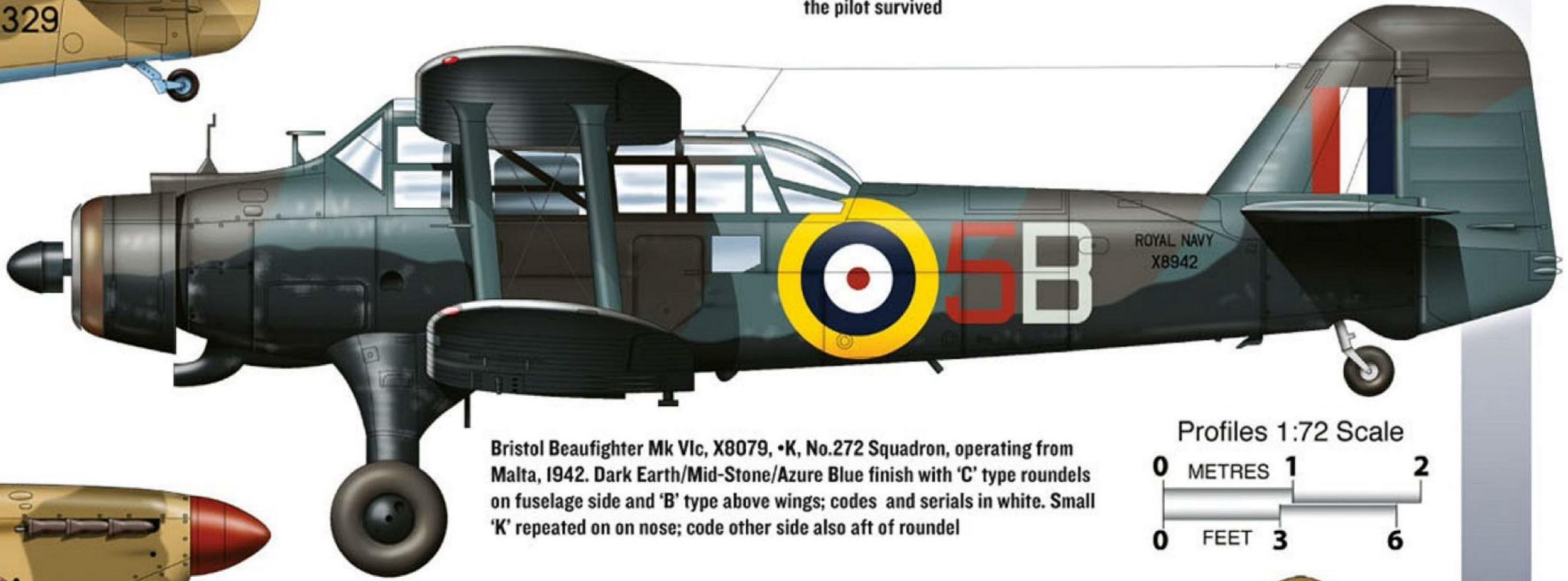
# The Battle for Malta – Award of the George Cross

Supermarine Spitfire Mk Vb, BR329, GL•J, flown by Flt Lt Johnny Plagis of No.249 Squadron, showing 11 'swastika' victory markings under the windscreen

Fairey Albacore Mk I, X8942, •5B, No.828 Naval Air Squadron (Fleet Air Arm), Hal Far, March 1942. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with Night undersides; code in Ident Red/Medium Sea Grey. This Albacore was forced to ditch in bad weather on return from a seven-hour flight on 22 March; only the pilot survived



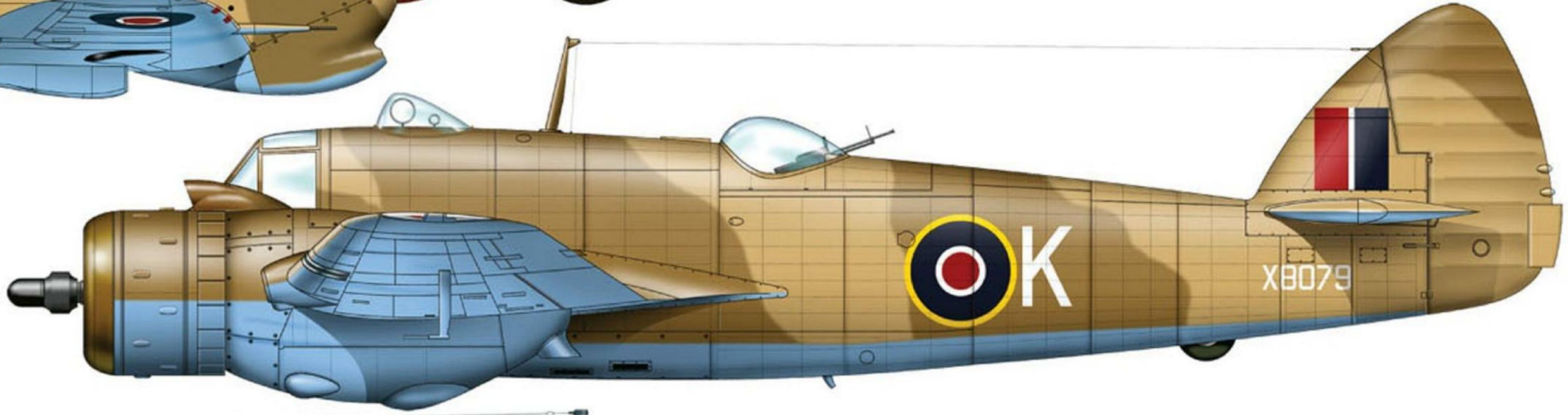

Below: Supermarine Spitfire Mk Vb, BR566, T•M of No.249 Squadron, June 1942

*Between 19 May and 15 July HMS Argus and Eagle delivered 112 Spitfires to Malta*

Bristol Beaufighter Mk VIc, X8079, •K, No.272 Squadron, operating from Malta, 1942. Dark Earth/Mid-Stone/Azure Blue finish with 'C' type roundels on fuselage side and 'B' type above wings; codes and serials in white. Small 'K' repeated on on nose; code other side also aft of roundel

Profiles 1:72 Scale
0 METRES 1 2
0 FEET 3 6

*The first 16 Spitfires for Malta were flown off HMS Eagle and Argus on 20 March 1942. Contrary to recently published references to Malta Spitfires predominantly finished in a blue-grey overspray, the practice did not begin until late in 1942. Only those Spitfires delivered by Wasp in Operation Calendar of 20th April 1942 were hastily hand-painted in blue whilst the carrier was on its way to Malta; this batch of Spitfires was destroyed by enemy action within a few days. Photo and eye witness accounts up to June 1942 clearly indicate that tropicalised Spitfires at Malta were in Dark Earth/Mid Stone/Azure Blue finish*




Bristol Beaufort Mk I, L9878, MW•R, No.217 Squadron, Luqa, 1942. Extra Dark Sea Grey/Dark Slate Grey/Night finish with Medium Sea Grey codes and Night serials; 'B' type roundels above wings. 'R' repeated in yellow on nose

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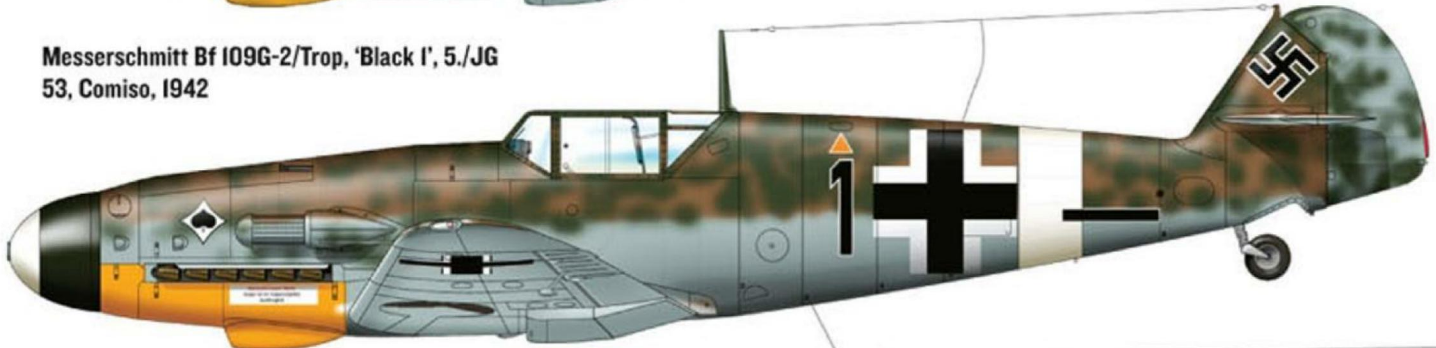
# The Battle for Malta – Award of the George Cross

Messerschmitt Bf 109F-2/Trop, 'White 9', of I./JG 77, Comiso (Sicily), 1942. RLM 74/75/76 finish

Messerschmitt Bf 109F, 'Yellow 12', 6./JG3, Sicily, February 1942. RLM 79/80/78 finish

Messerschmitt Bf 109F-4, 'Black 2', flown by Ofw. Herbert Rollwage, 5./JG 53, Sicily, 1942

Messerschmitt Bf 109G-2/Trop, 'Black 1', 5./JG 53, Comiso, 1942

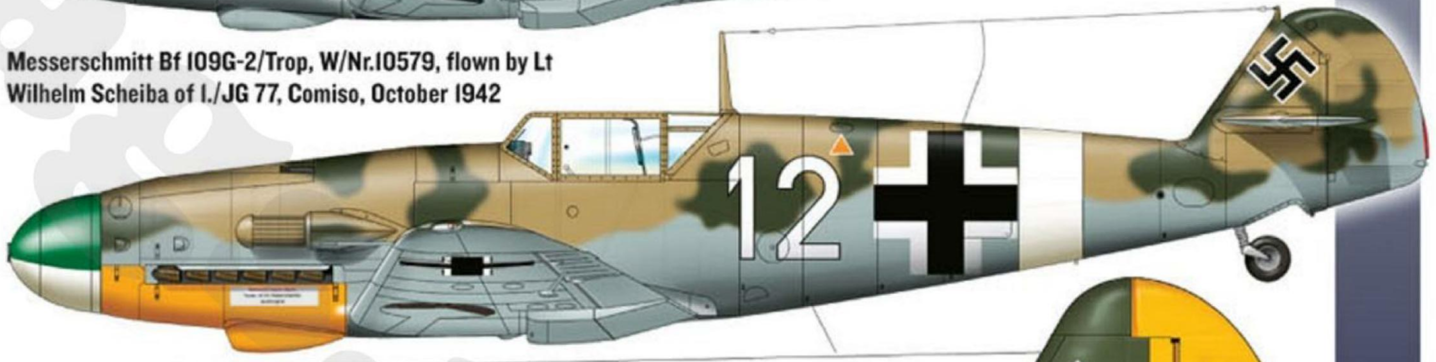


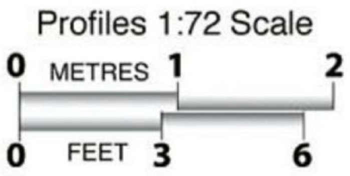
Messerschmitt Bf 109F-4/Z, 'White 4', 4./JG 53, Sicily, April 1942. RLM 02/71/65 finish

Messerschmitt Bf 109F-4, W/Nr.13376, flown by Hptm. Heinz Bär, Kommandeur I./JG 77, Comiso, 1942. RLM 74/75/76 finish

Messerschmitt Bf109F-4, 'White 3', flown by Uffz. Dr Felix Sauer, 10 (Jabo)/ JG53, Sicily, 1942

Messerschmitt Bf 109G-2/Trop, W/Nr.10579, flown by Lt Wilhelm Scheiba of I./JG 77, Comiso, October 1942






Junkers Ju 88A-4, 4D+DT of 9./KG.30 'Adler Geschwader' operating in the anti-shipping role in the Mediterranean during 1941. RLM 70/71/65 scheme with RLM 04 rudder and engine cowlings, white tips of wing undersides and the unit emblem on the nose just visible behind the propeller spinner. Note the fin tally of ships, one of which presents an explosion on its deck, and six victory tally lines at the bottom

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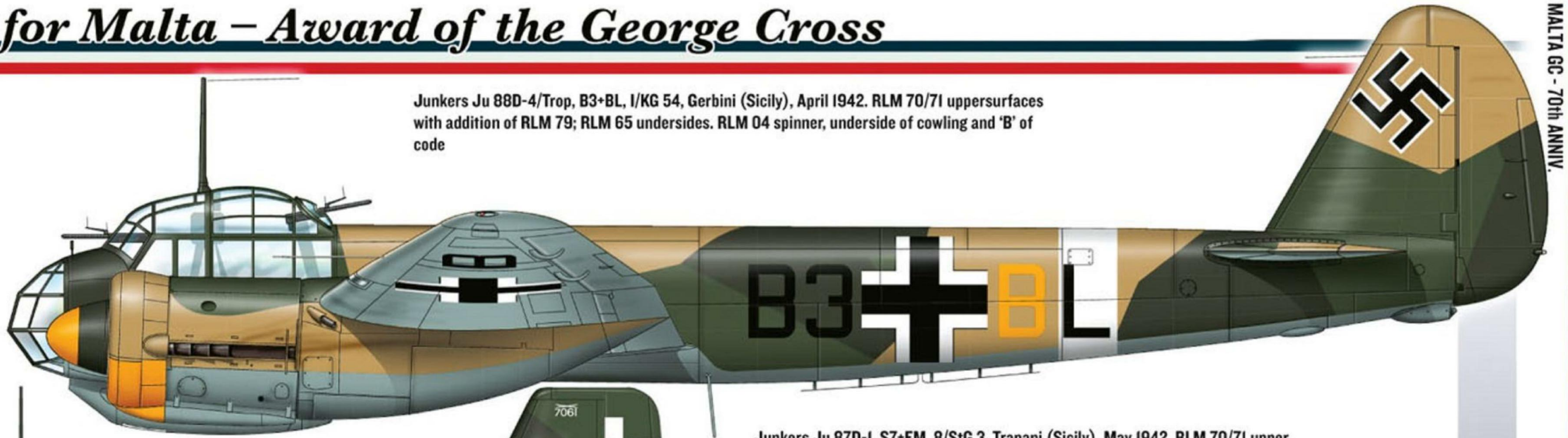
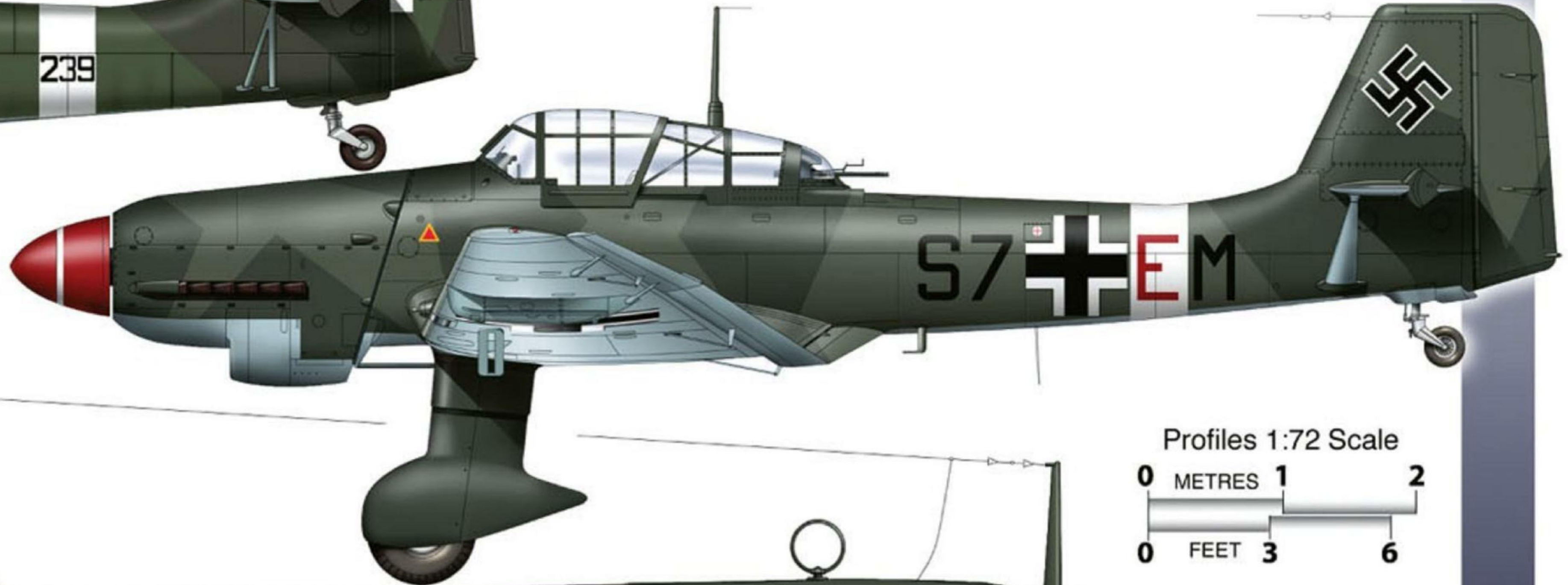
# The Battle for Malta – Award of the George Cross

Junkers Ju 87R-2, W/Nr.7061, 239-7, flown by Magg. Pil. Giuseppe Cenni, 239ˆ Squadriglia (101º Gruppo Bombardamento a Tuffo), Gela, August 1942. RLM 70/71/65 finish with red spinner and individual number '7' on front of wheel spats; white rear fuselage band with code in black. Markings on top of wing in black only, those below with white background. Gruppo commander's pennant and 'diving duck' emblem on wheel spats




Junkers Ju 88D-4/Trop, B3+BL, I/KG 54, Gerbini (Sicily), April 1942. RLM 70/71 uppersurfaces with addition of RLM 79; RLM 65 undersides. RLM 04 spinner, underside of cowling and 'B' of code

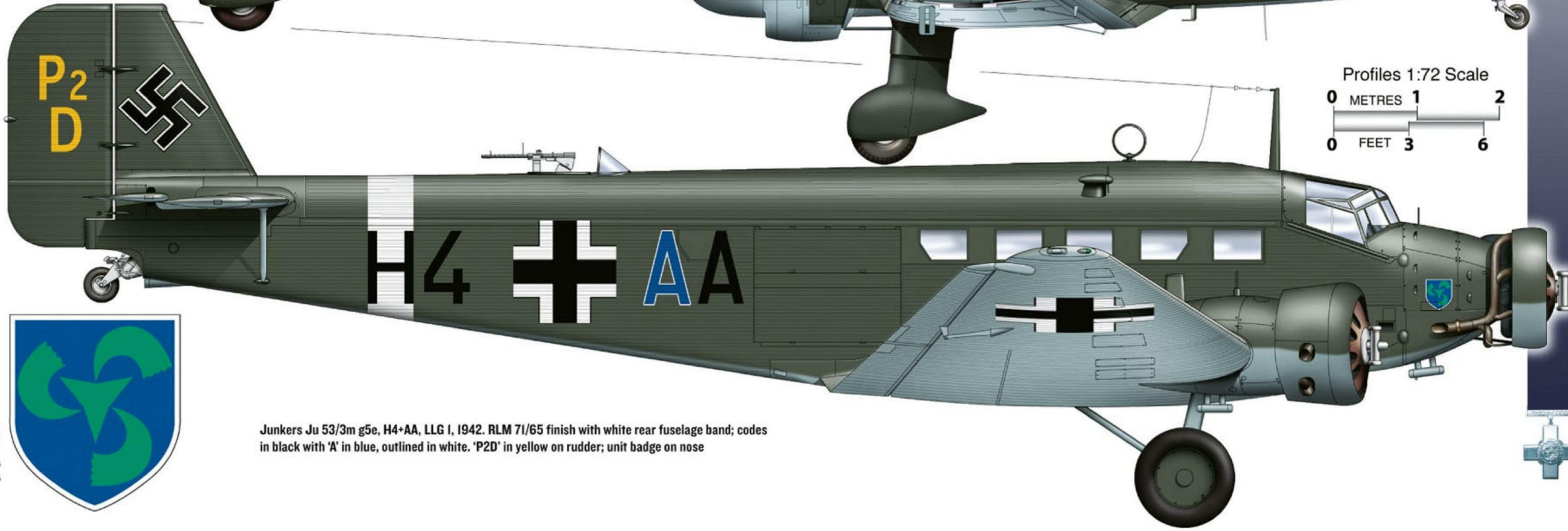



Junkers Ju 87D-1, S7+EM, 8/StG 3, Trapani (Sicily), May 1942. RLM 70/71 upper surfaces with RLM 65 undersides; red/white spinner and red individual letter 'E'; white band around rear fuselage

Profiles 1:72 Scale

0 METRES 1 2

0 FEET 3 6




Junkers Ju 53/3m g5e, H4+AA, LLG 1, 1942. RLM 71/65 finish with white rear fuselage band; codes in black with 'A' in blue, outlined in white. 'P2D' in yellow on rudder; unit badge on nose



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# The Battle for Malta – Award of the George Cross

Reggiane Re.2001, 152-1 (MM.7209), 152^ Sq (2º Gr, 6º St), flown by Ten. Remo Cazzoli, shot down over Malta on 3rd January 1942

Reggiane Re.2000, Serie II°, MM.8088/7, 377^ Squadriglia (2^ Sezione), Palermo Boccadifalco, 1942

Reggiane Re.2001, 358-1, 358^ Sq (2º Gr, 6º St), Caltagirone, 1942. Verde Oliva Scuro/Grigio Azzurro Chiaro finish

Reggiane Re.2000, 377-5, 377^ Squadriglia Autonoma (1^ Sezione), Boccadifalco, 1942. Nocciola Chiaro/Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaro underside

Macchi C.202 Folgore Serie VII, MM.9042/151-1, flown by Cap. Furio Niclot of 151^ Squadriglia, 20º Gruppo, 51º Stormo, Gela, May 1942. Nocciola Chiaro 4 upper surfaces with Verde Oliva Scuro 2 finish

Fiat CR 25bis, MM.3657/173-7, 173^ Squadriglia Ricognizione Strategica Terrestre, Palermo-Boccadifalco, early 1942. Giallo/Verde/Marrone Mimetico upper surfaces with Grigio Mimetico undersides; Giallo Cromo engine cowlings and spinners

Fiat BR.20M, 56-1, 56^ Squadriglia (88º Gruppo Autonomo), Castelvetrano (Sicily), April 1942

Profiles 1:72 Scale

0 METRES 1 2

0 FEET 3 6

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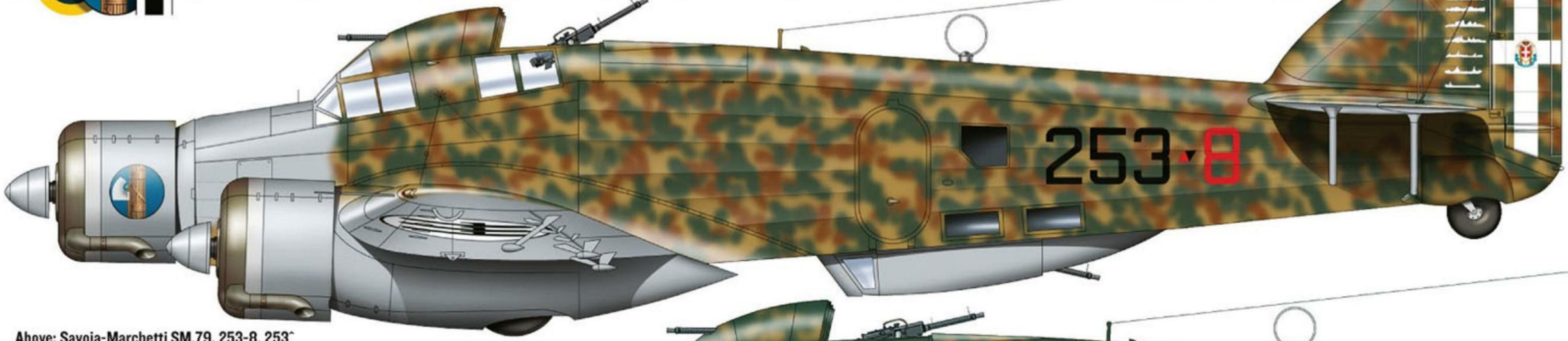
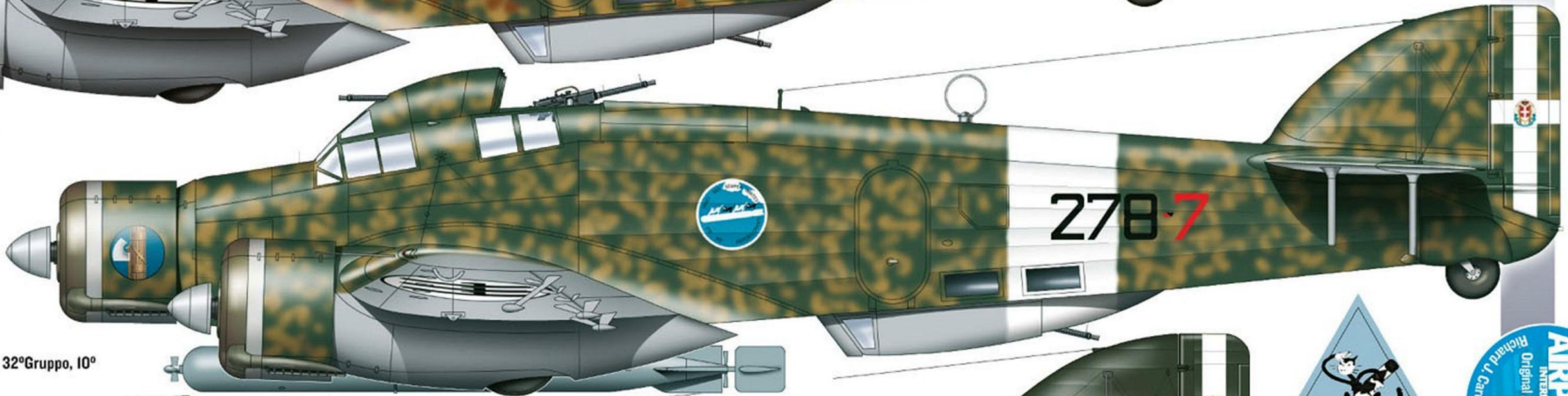
# The Battle for Malta – Award of the George Cross

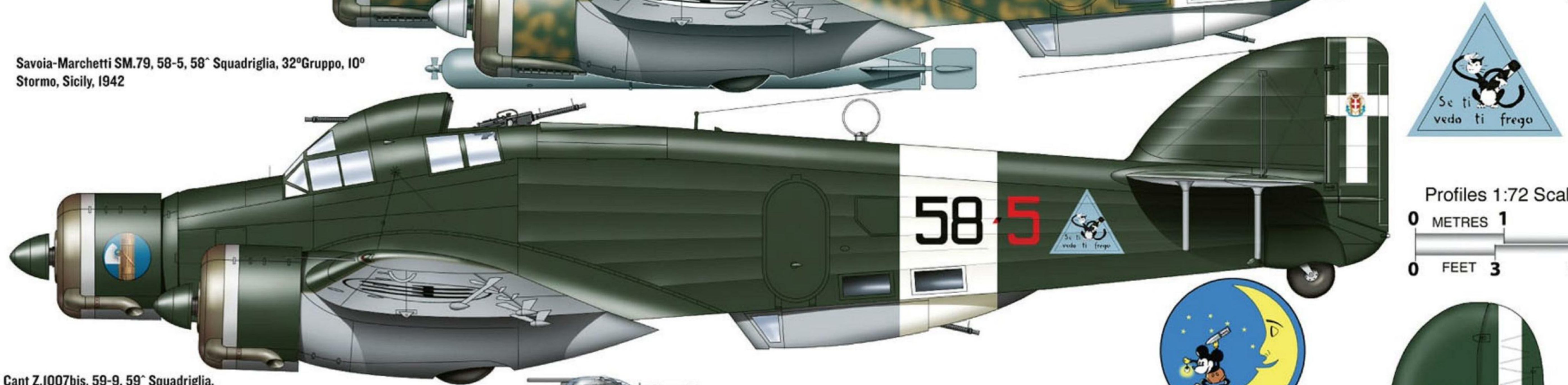


Above: Savoia-Marchetti SM.79, 253-8, 253ª Squadriglia, 104º Gruppo Autonomo Aerosiluranti, 1942




Right: Savoia-Marchetti SM.79, 278ª Squadriglia (132º Gruppo Aerosiluranti), Mediterranean, spring 1942

Savoia-Marchetti SM.79, 58-5, 58ª Squadriglia, 32ºGruppo, 10º Stormo, Sicily, 1942

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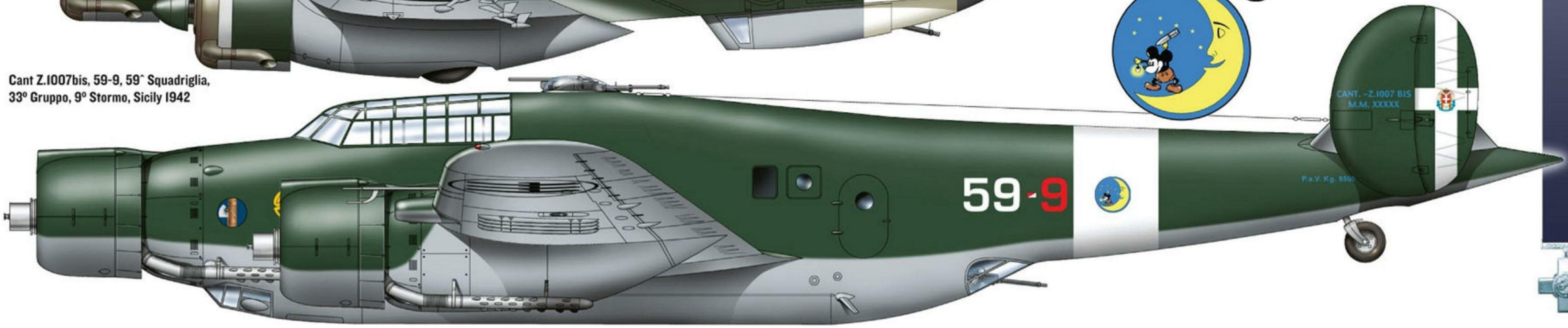
Profiles 1:72 Scale

0 METRES 1 2

0 FEET 3 6

Cant Z.1007bis, 59-9, 59ª Squadriglia, 33º Gruppo, 9º Stormo, Sicily 1942



SAAB J 35Ö Darken, 35-1412/12, FlRgt2/I Staffel, Austrian Air Force, 2000. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; marked to show the 1,000,000th Draken flying hours in Austrian service

SAAB J 35Ö Draken, 35-1406/06, FlRgt2/I Staffel, Austrian Air Force, 1997. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; F10 Swedish Air Force zap on starboard side only of the fin, applied during training in Sweden

SAAB J 35Ö Draken, 35-1410/10, FlRgt2/I Staffel, Austrian Air Force, 2002. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; Staffel badge on fin

SAAB J 35Ö Draken, 35-1409/09, FlRgt2/I Staffel, Austrian Air Force, 2003. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; Stafffel and Regiment badge on fin

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SAAB J 35Ö Draken, 35-1413/13, FIRgt2/2 Staffel, Austrian Air Force, 2003. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; Stafffel badge on finr

Typical upper surface camouflage pattern of Austrian Air Force J 35Ö Drakens; note that dayglo numbers on top surfaces often seen faded to yellow due to weathering during towards the end of their service life

Note: Scrap underside view not to 1:72 Scale

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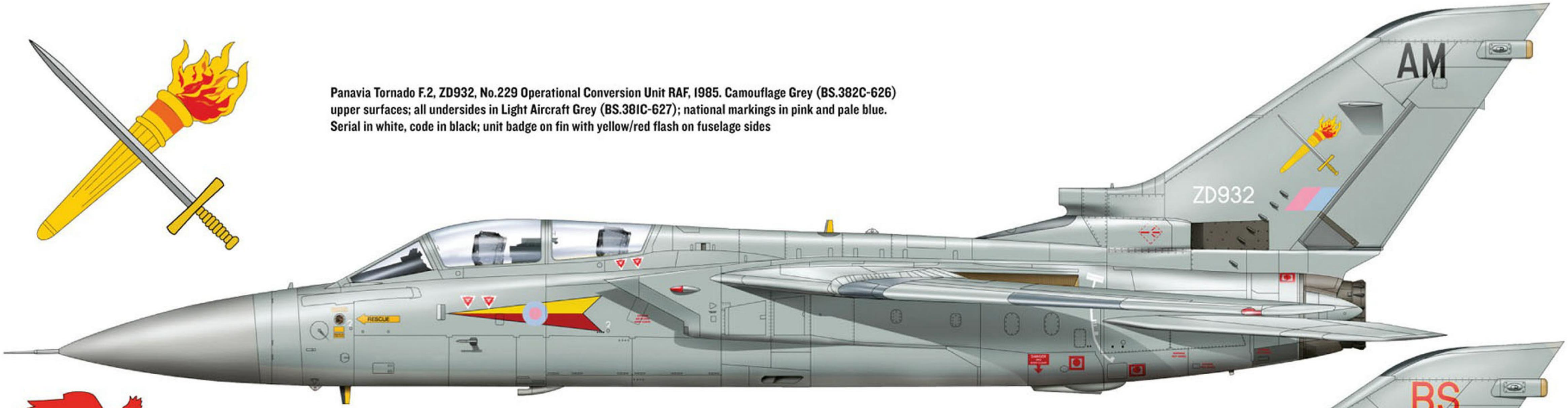
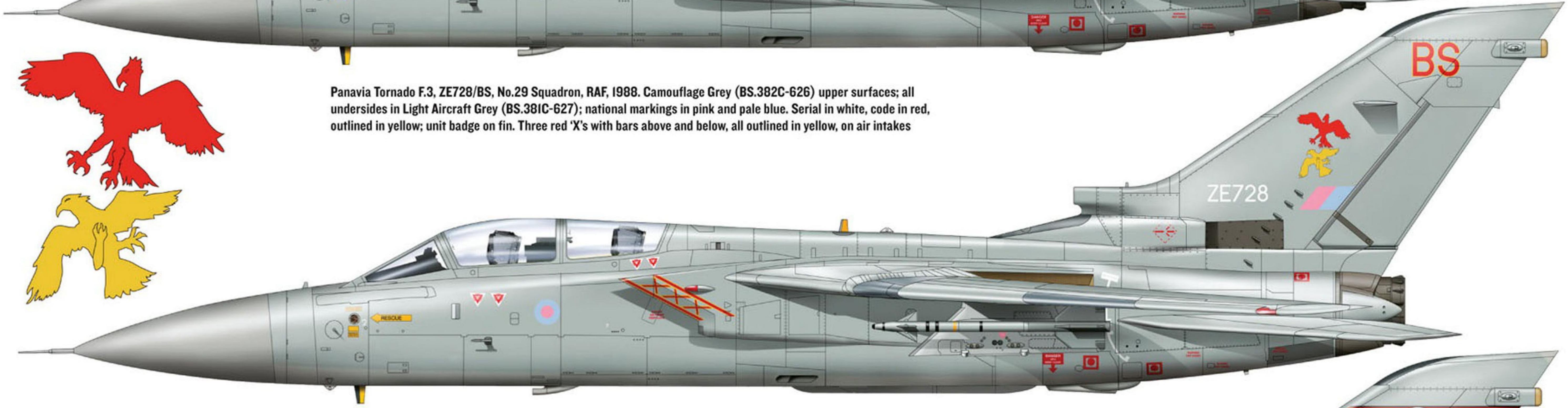
SAAB J 35Ö Draken, 35-1415/15, FIRgt2/2 Staffel, Austrian Air Force, 2005. Three-tone grey finish with a light grey underside, a darker grey on upper surfaces and a dark grey on upper wing surfaces and rear fuselage only; national markings on fuselage sides, above starboard and below port wings. Black code on fin, repeated in Dayglo Orange above wings; Staffel and Regiment badge on fin

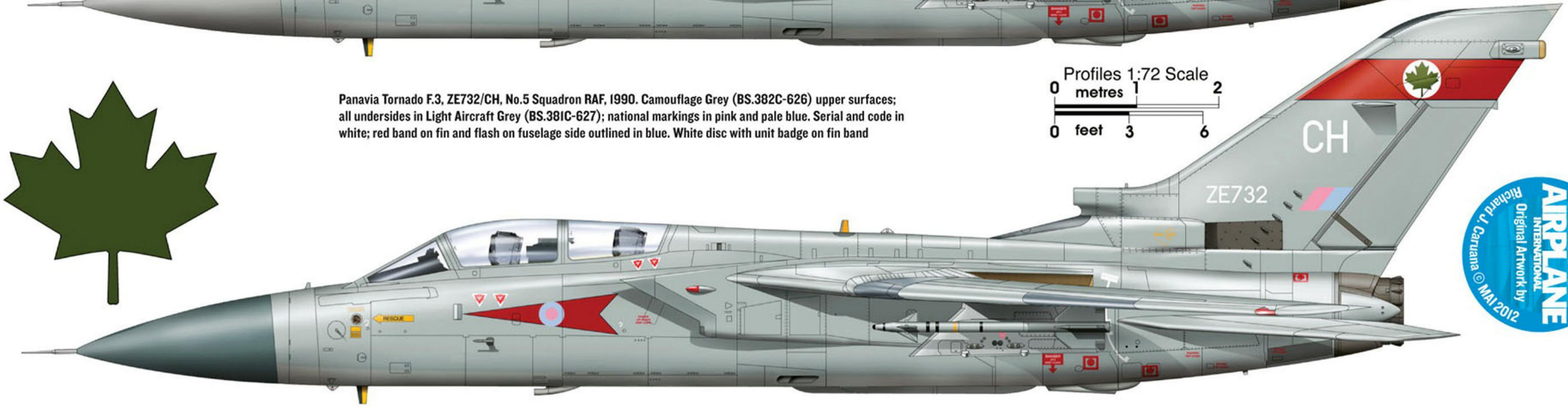
Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6




Panavia Tornado F.2, ZD932, No.229 Operational Conversion Unit RAF, 1985. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial in white, code in black; unit badge on fin with yellow/red flash on fuselage sides




Panavia Tornado F.3, ZE728/BS, No.29 Squadron, RAF, 1988. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial in white, code in red, outlined in yellow; unit badge on fin. Three red 'X's with bars above and below, all outlined in yellow, on air intakes

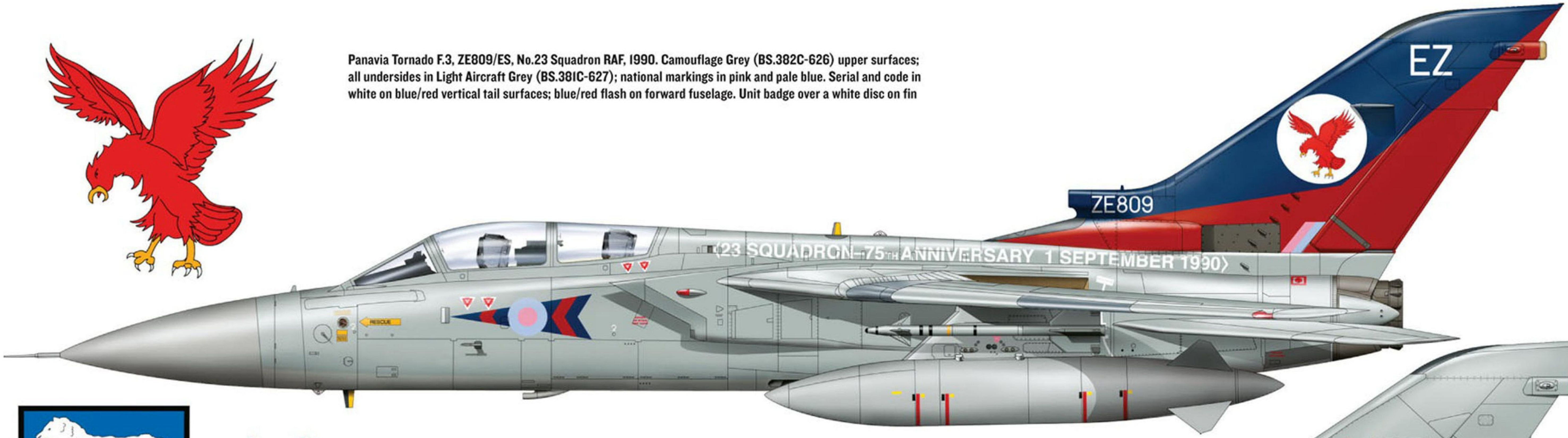



Panavia Tornado F.3, ZE732/CH, No.5 Squadron RAF, 1990. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial and code in white; red band on fin and flash on fuselage side outlined in blue. White disc with unit badge on fin band

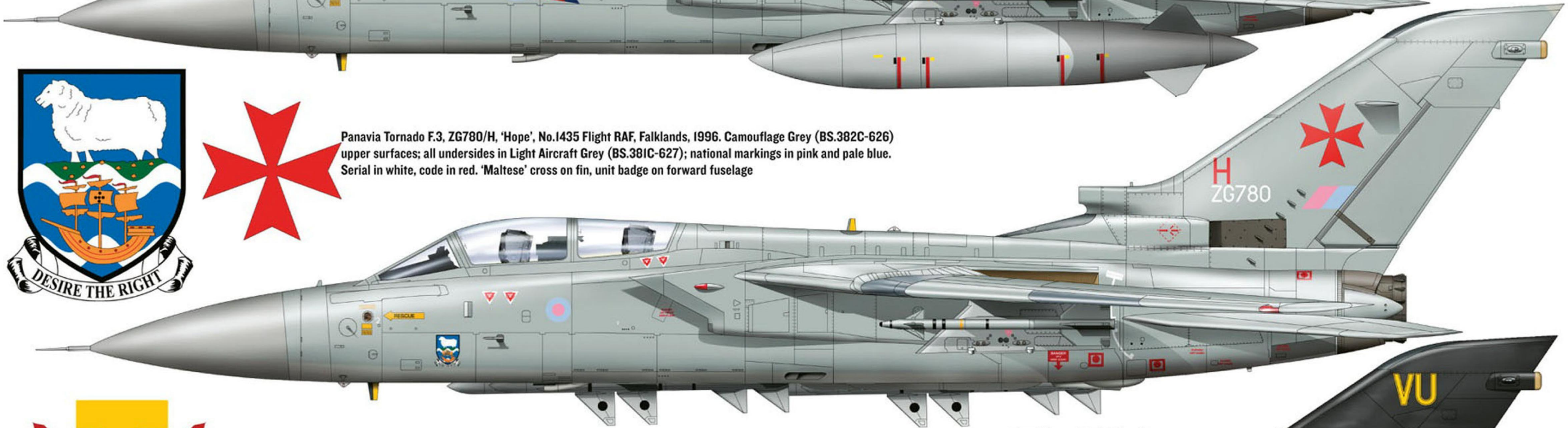
Model Airplane International
Original Artwork by Richard J. Caruana © MAI 2012



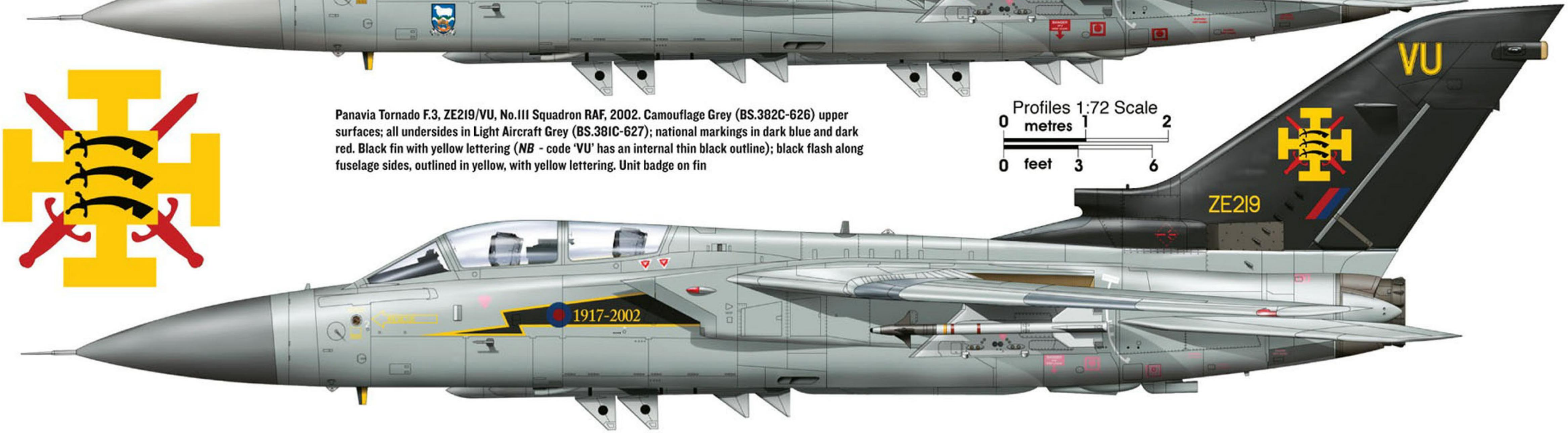
Model Airplane International




Panavia Tornado F.3, ZE809/ES, No.23 Squadron RAF, 1990. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial and code in white on blue/red vertical tail surfaces; blue/red flash on forward fuselage. Unit badge over a white disc on fin



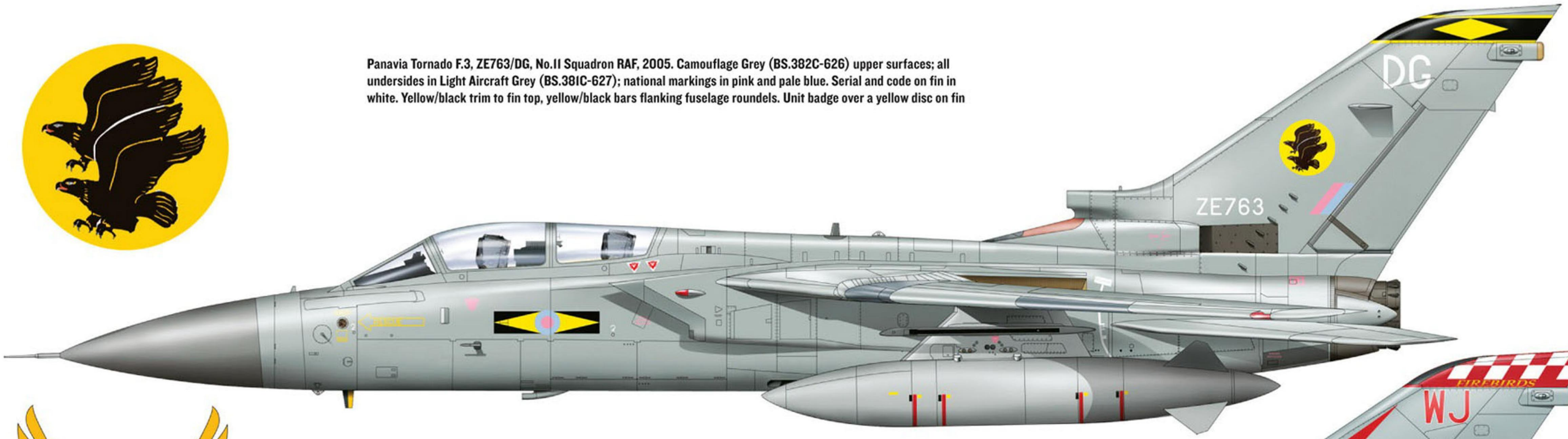

Panavia Tornado F.3, ZG780/H, 'Hope', No.1435 Flight RAF, Falklands, 1996. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial in white, code in red. 'Maltese' cross on fin, unit badge on forward fuselage




Panavia Tornado F.3, ZE219/VU, No.111 Squadron RAF, 2002. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in dark blue and dark red. Black fin with yellow lettering (*NB* - code 'VU' has an internal thin black outline); black flash along fuselage sides, outlined in yellow, with yellow lettering. Unit badge on fin

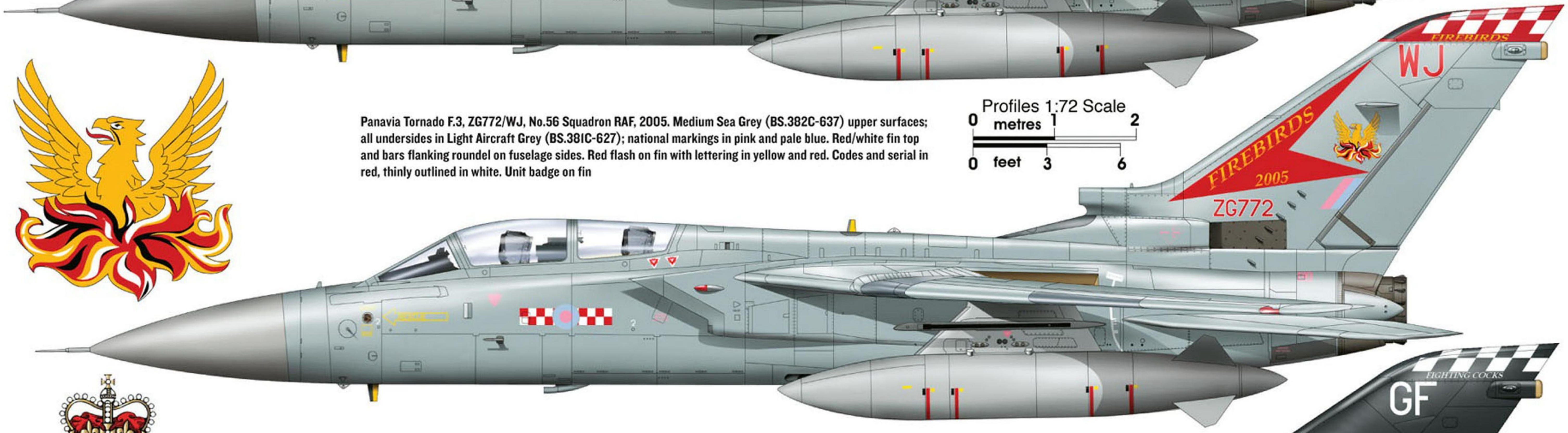
# COLOUR PROFILES PANAVIA TORNADO IDS

Panavia Tornado F.3, ZE763/DG, No.II Squadron RAF, 2005. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Serial and code on fin in white. Yellow/black trim to fin top, yellow/black bars flanking fuselage roundels. Unit badge over a yellow disc on fin

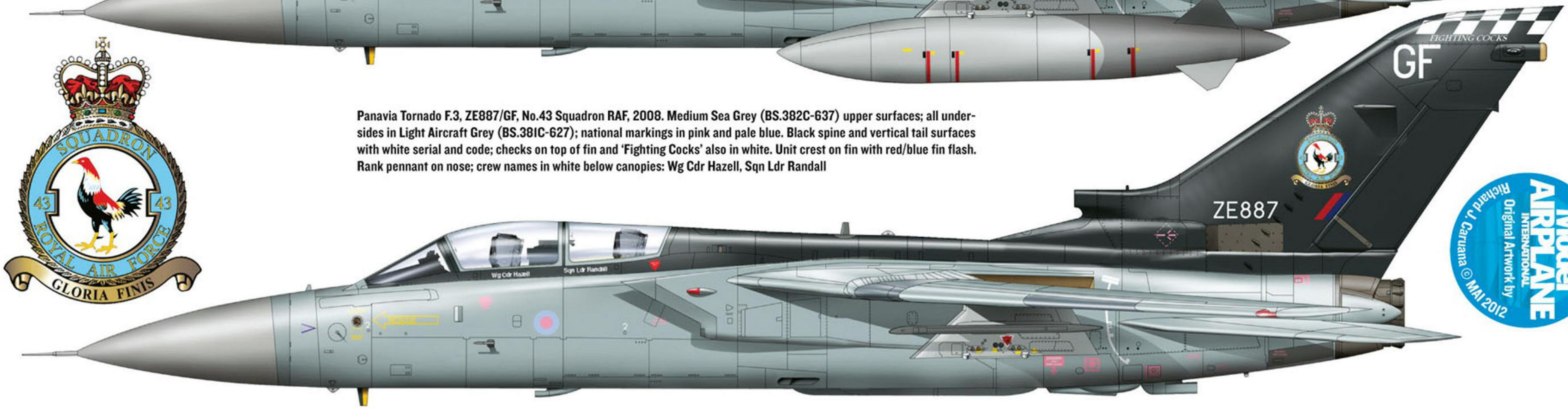



Panavia Tornado F.3, ZG772/WJ, No.56 Squadron RAF, 2005. Medium Sea Grey (BS.382C-637) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Red/white fin top and bars flanking roundel on fuselage sides. Red flash on fin with lettering in yellow and red. Codes and serial in red, thinly outlined in white. Unit badge on fin

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6




Panavia Tornado F.3, ZE887/GF, No.43 Squadron RAF, 2008. Medium Sea Grey (BS.382C-637) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Black spine and vertical tail surfaces with white serial and code; checks on top of fin and 'Fighting Cocks' also in white. Unit crest on fin with red/blue fin flash. Rank pennant on nose; crew names in white below canopies: Wg Cdr Hazell, Sqn Ldr Randall

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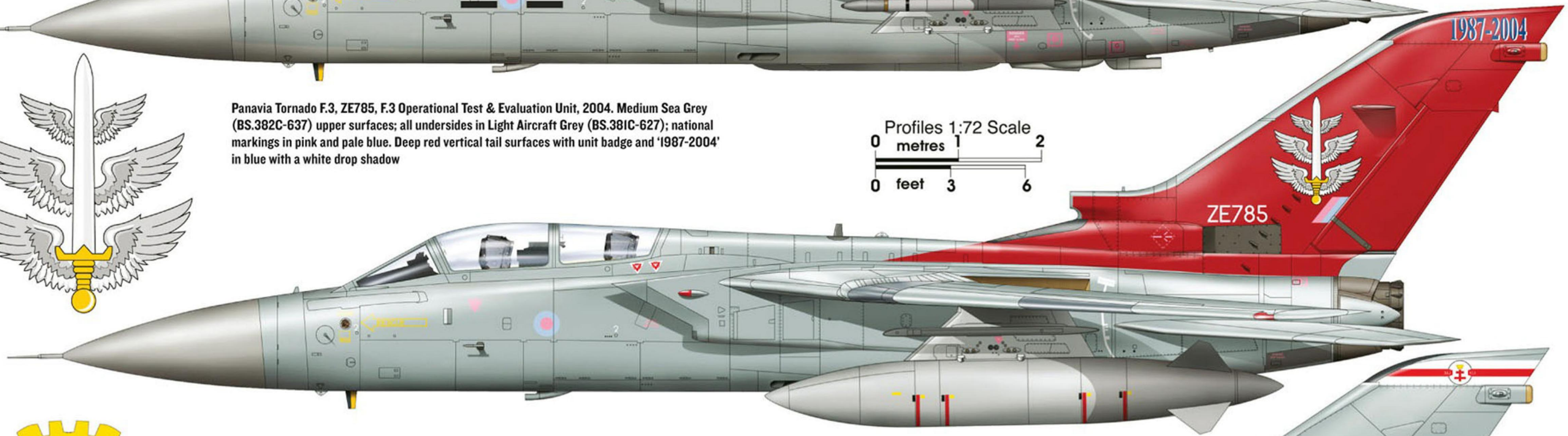
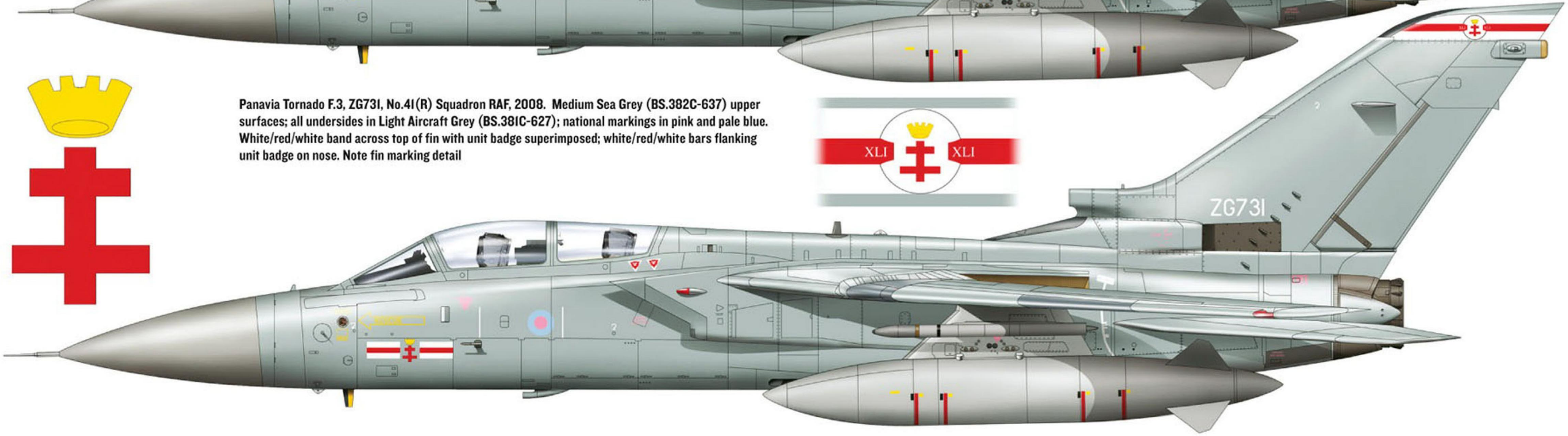
Panavia Tornado F.3, ZE165/ZK, No.25 Squadron, 1998. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); pale blue and pink national markings. White serial, black code; unit badge on fin. Black/white/black bars across top of fin and bars flanking fuselage roundel. Crew names in black: Flt Lt Willie Hackett, Flt Lt John Shields; 'ZK' were the code letters used by No.25 Squadron during WWII

Panavia Tornado F.3, ZE785, F.3 Operational Test & Evaluation Unit, 2004. Medium Sea Grey (BS.382C-637) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. Deep red vertical tail surfaces with unit badge and '1987-2004' in blue with a white drop shadow



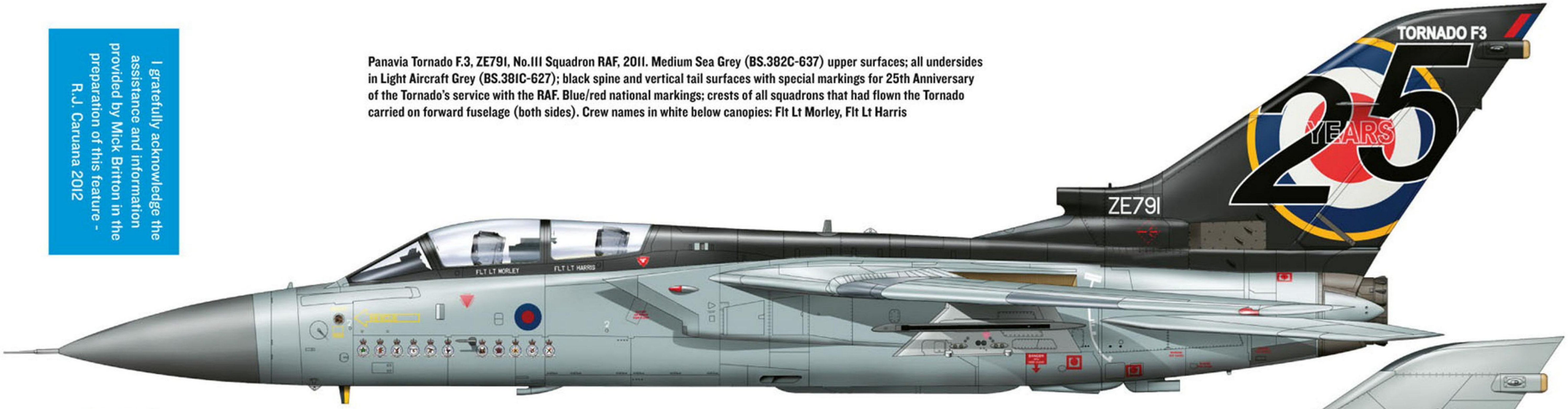

Panavia Tornado F.3, ZG731, No.41(R) Squadron RAF, 2008. Medium Sea Grey (BS.382C-637) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings in pink and pale blue. White/red/white band across top of fin with unit badge superimposed; white/red/white bars flanking unit badge on nose. Note fin marking detail



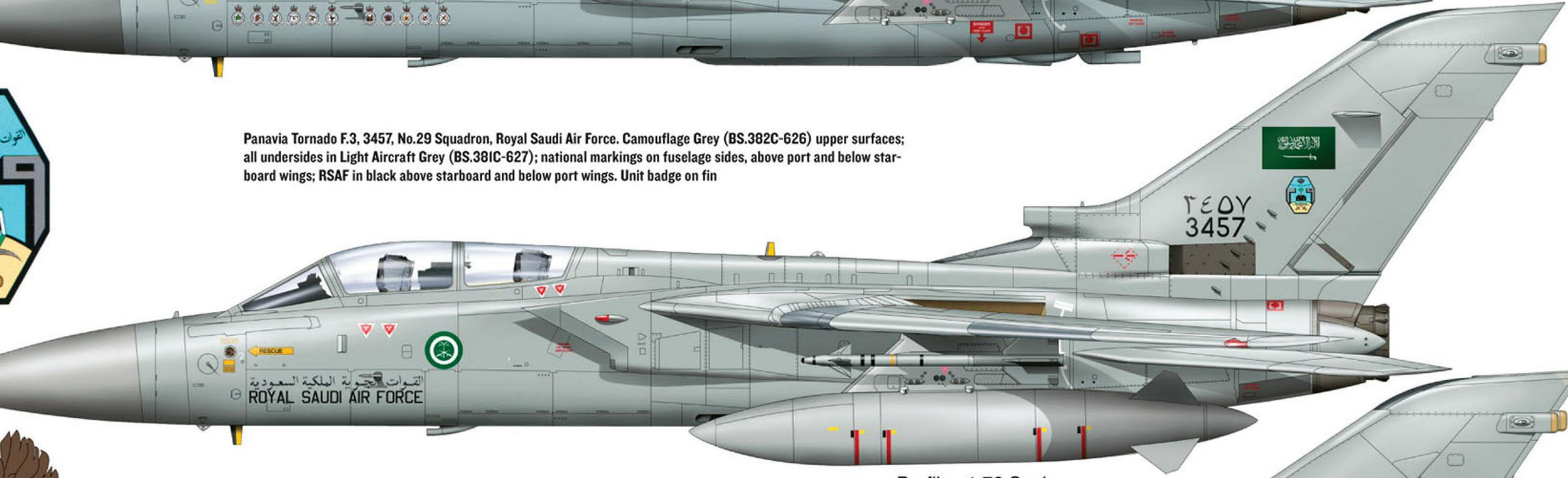
# PANAVIA TORNADO IDS

I gratefully acknowledge the assistance and information provided by Mick Britton in the preparation of this feature -
R.J. Caruana 2012

Panavia Tornado F.3, ZE791, No.111 Squadron RAF, 2011. Medium Sea Grey (BS.382C-637) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); black spine and vertical tail surfaces with special markings for 25th Anniversary of the Tornado's service with the RAF. Blue/red national markings; crests of all squadrons that had flown the Tornado carried on forward fuselage (both sides). Crew names in white below canopies: Flt Lt Morley, Flt Lt Harris

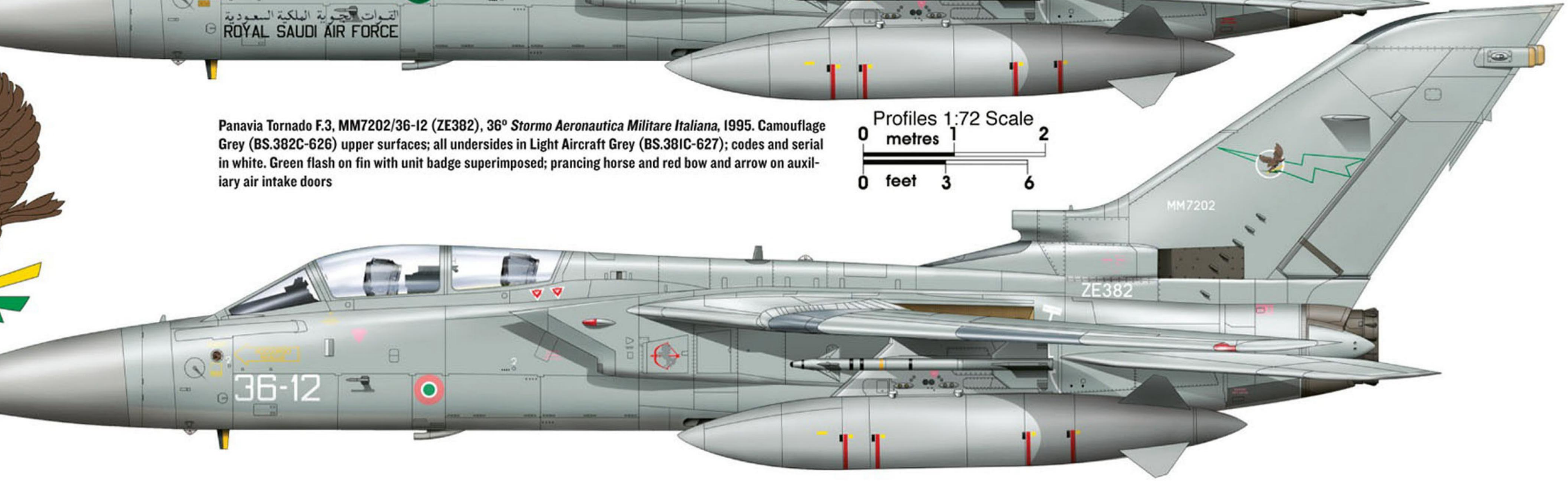


Panavia Tornado F.3, 3457, No.29 Squadron, Royal Saudi Air Force. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); national markings on fuselage sides, above port and below starboard wings; RSAF in black above starboard and below port wings. Unit badge on fin



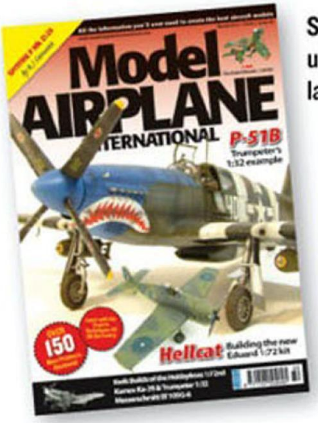
Panavia Tornado F.3, MM7202/36-12 (ZE382), 36° *Stormo Aeronautica Militare Italiana*, 1995. Camouflage Grey (BS.382C-626) upper surfaces; all undersides in Light Aircraft Grey (BS.381C-627); codes and serial in white. Green flash on fin with unit badge superimposed; prancing horse and red bow and arrow on auxiliary air intake doors

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6



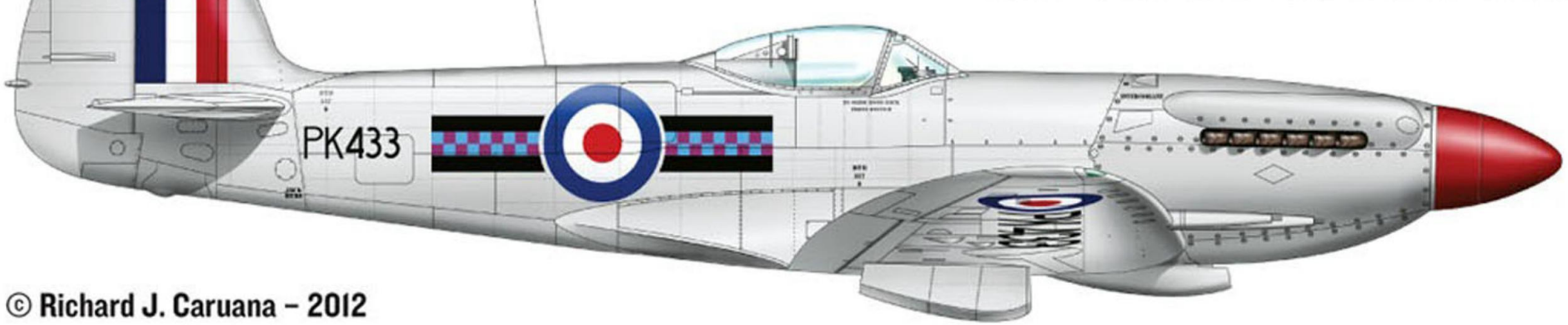
# SPITFIRE F22 POST-SCRIPT

***We thank Mr Richard Moore who has pointed out to us a couple of misinterpretations on two of the Spitfire F Mk 22 profiles published in Model Airplane International Issue 80, March 2012 (pages 38 & 40). The revised profiles are being republished below***



Spitfire F Mk 22, PK602, RAN•O of No.607 Squadron Royal Auxiliary Air Force, Ouston, 1948. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky spinner and rear fuselage band. Whites codes, Night serial, the latter repeated below the wings. Unit badge on nose

Spitfire F Mk 22, PK433/Q, No.603 Squadron RAuxAF. Aluminium (silver) overall with red spinner; maroon and light blue checks with a black bar above and below, flanking fuselage roundel. Black 'Q' on fin, black serials repeated under the wings. Post war national roundel in bright colours, in six positions

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Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

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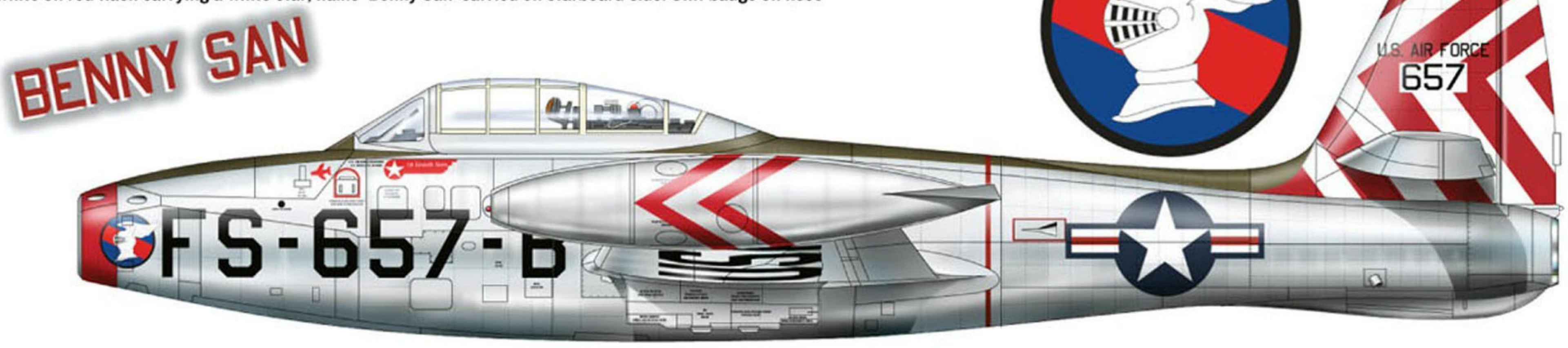
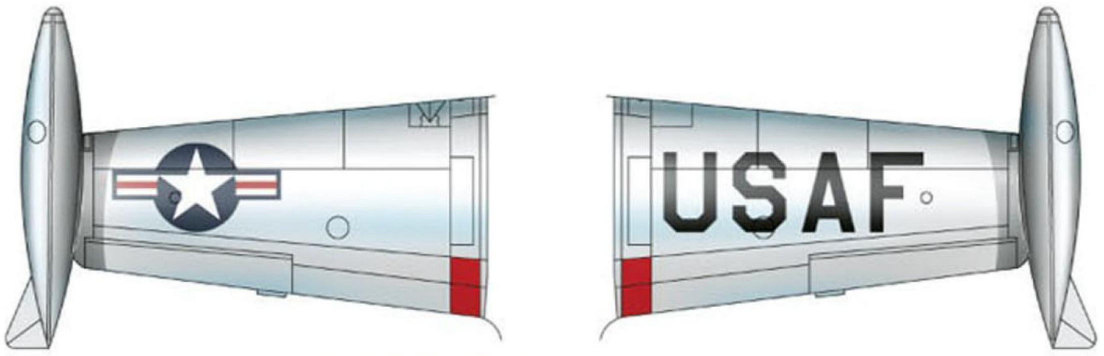
Republic F-84E Thunderjet, FS-657-B, flown by Cpt. Kenneth Skeen, 9th FBS, 49th FBW, Daegu Air Base (K-2), 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage decking; red/white vertical tail surfaces, red chevrons on wing tip tanks, red nose band. All lettering in black; one MiG-19 kill marking (scored 19 September 1951) on nose. Pilot's name in white on red flash carrying a white star; name 'Benny San' carried on starboard side. Unit badge on nose

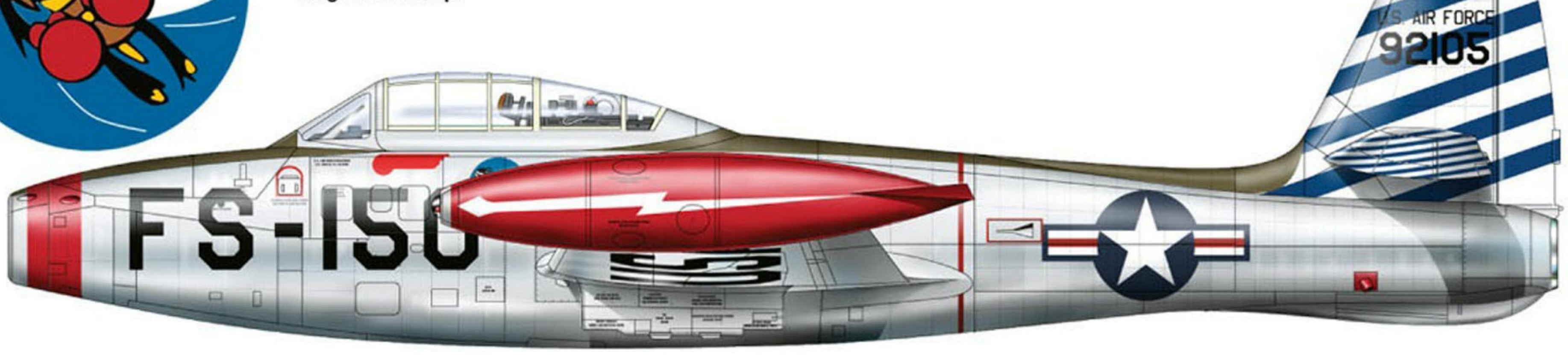


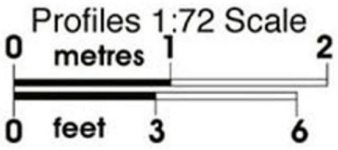

Right: Typical wing markings (above and below) for USAF F-84E Thunderjets



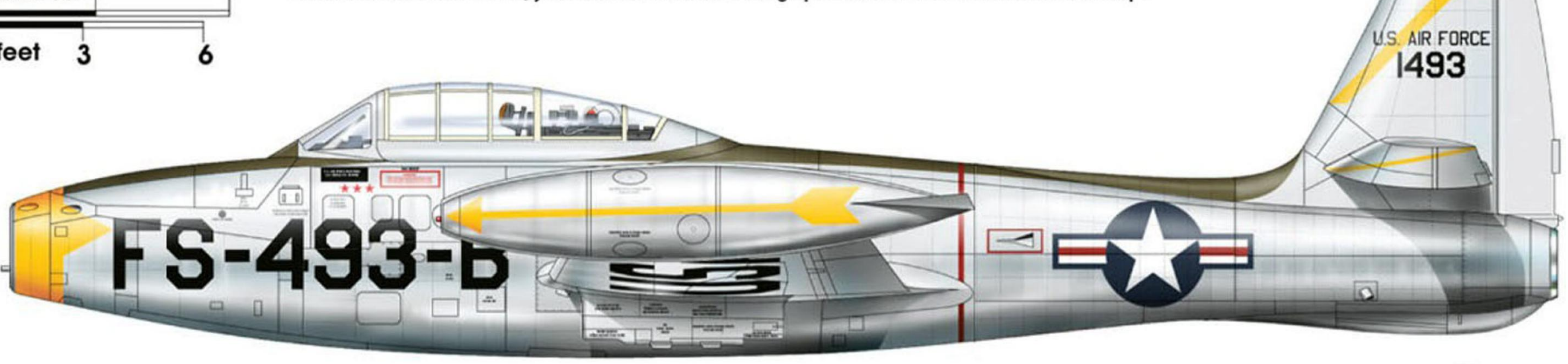

Republic F-84E Thunderjet, S/No.51-619, FS-619-A, 159th FBS, 116th FG, Misawa AFB, late 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage decking; all lettering in black. Blue bands around vertical tail surfaces, rear fuselage and nose

Republic F-84E Thunderjet, S/No.49-2105, FS-150, 22nd FBS, 36th FBW, Furstenfeldbruck Air Base, Germany. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage decking; vertical and horizontal tail surfaces white with blue stripes. All lettering in black; red nose band, red wing tip tanks with white flash. Unit badge below cockpit

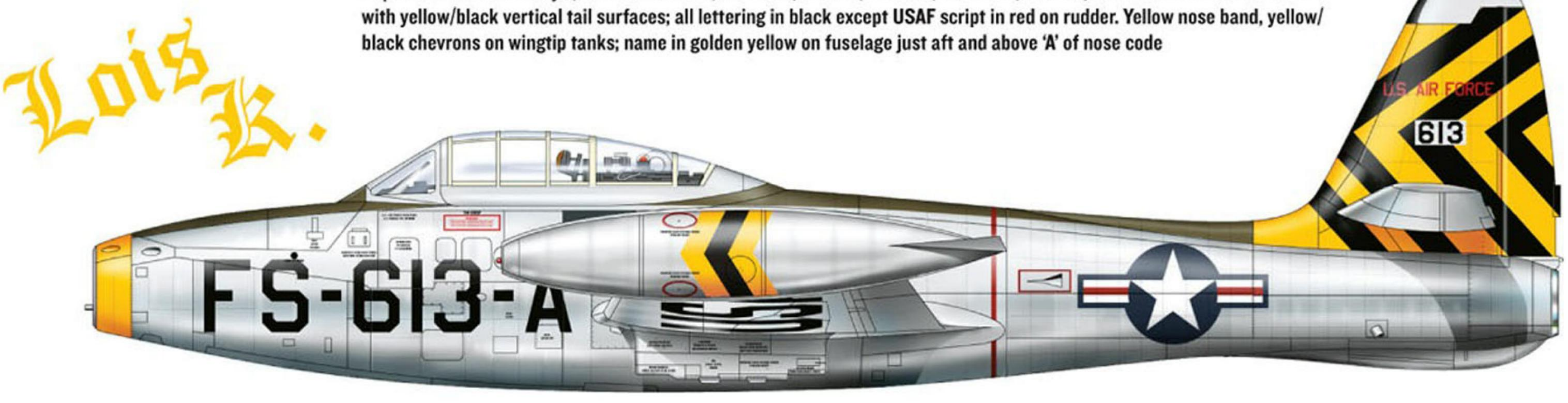



Republic F-84E Thunderjet, S/No.51-493, FS-493-B, flown by Lt Jacob Kratt of the 532nd FES, 27th FEG, 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage top decking; all lettering in black. Yellow bands on fin and horizontal tail surfaces; yellow nose and arrow on wing tip tanks. Three red star kills below cockpit




Republic F-84E Thunderjet, 51-613/FS-613-A, 'Frenchie, Lois K.', 8th FBS, 49th FBG, Kunsan, 1953. Natural metal overall with yellow/black vertical tail surfaces; all lettering in black except USAF script in red on rudder. Yellow nose band, yellow/black chevrons on wingtip tanks; name in golden yellow on fuselage just aft and above 'A' of nose code



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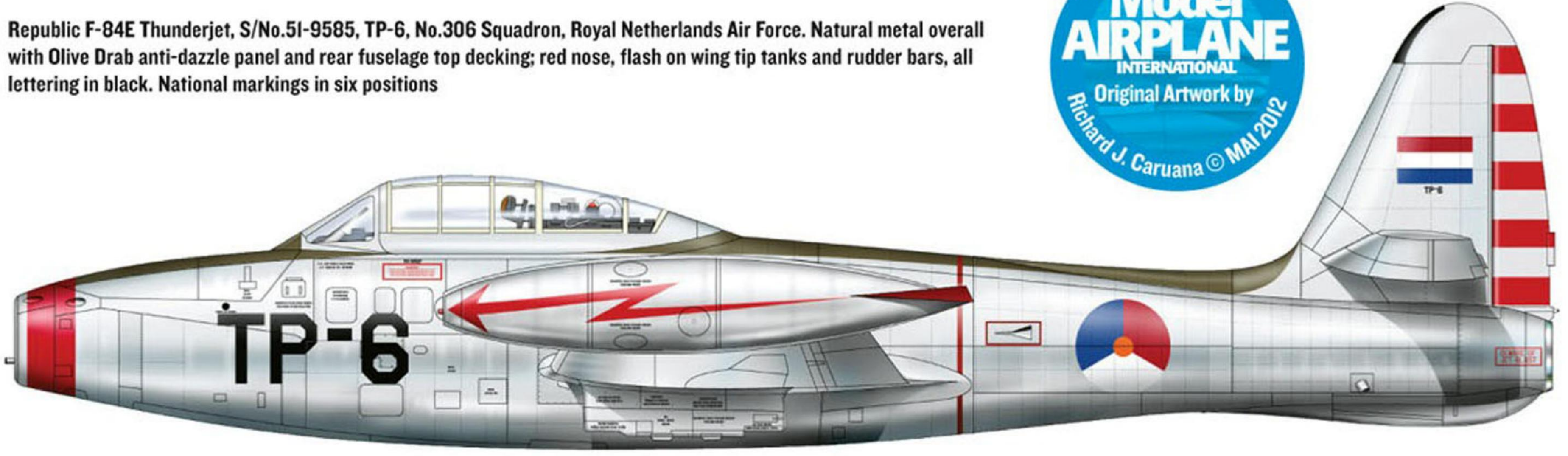
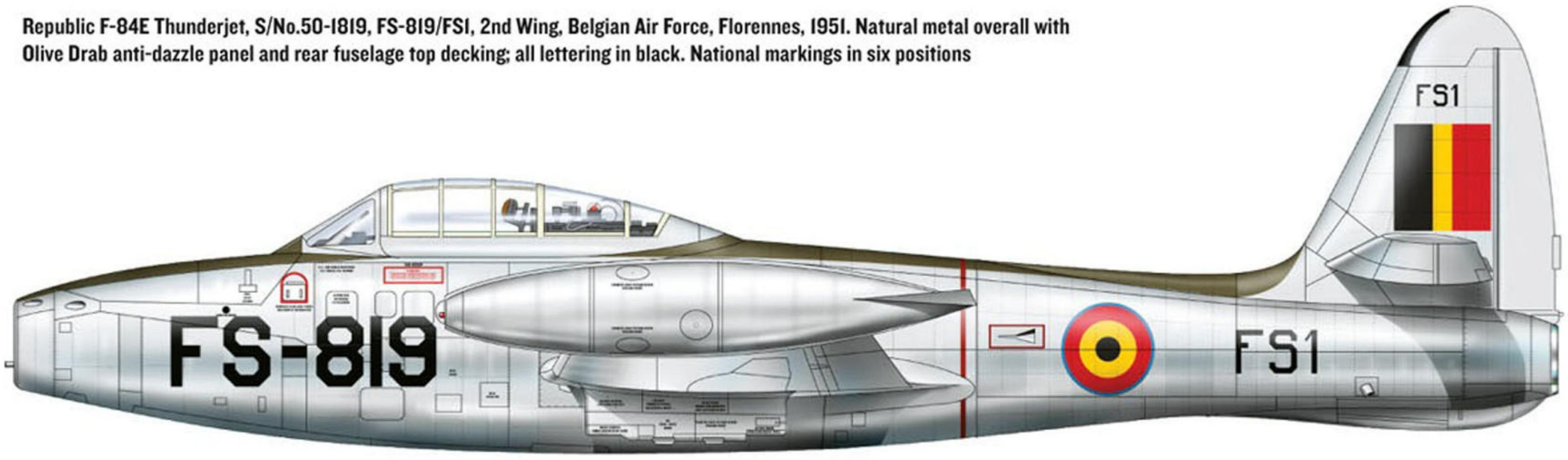
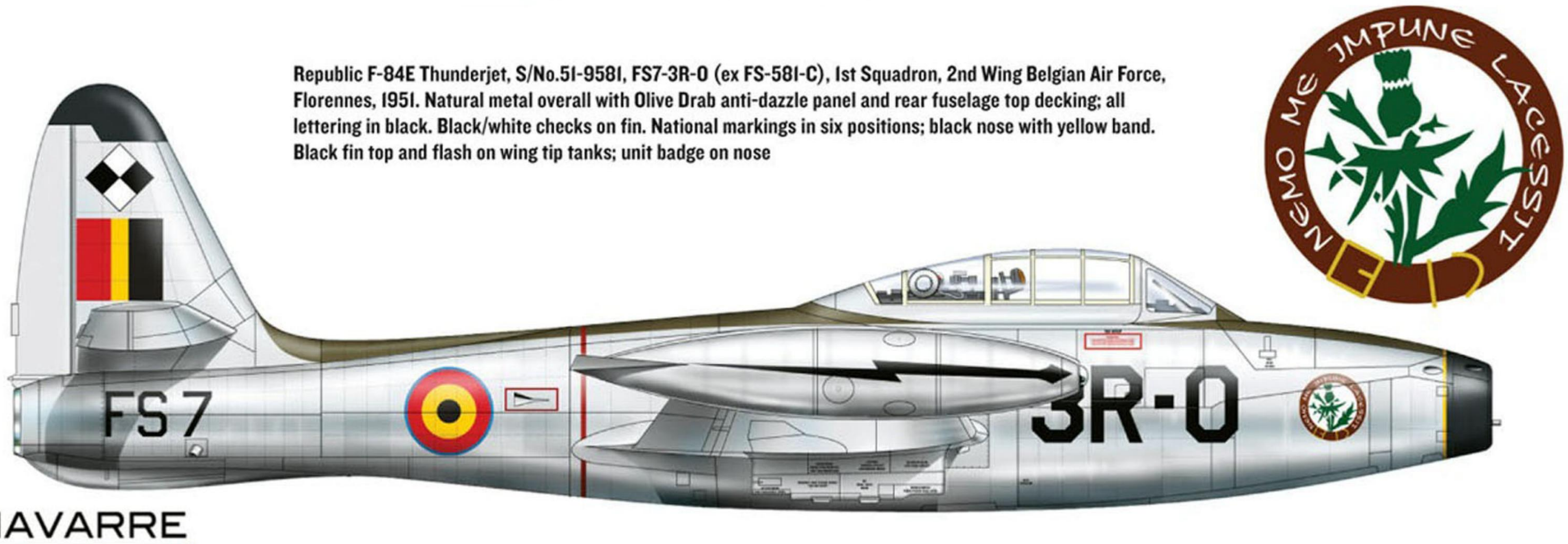
Republic F-84E Thunderjet, S/No.51-9585, TP-6, No.306 Squadron, Royal Netherlands Air Force. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage top decking; red nose, flash on wing tip tanks and rudder bars, all lettering in black. National markings in six positions



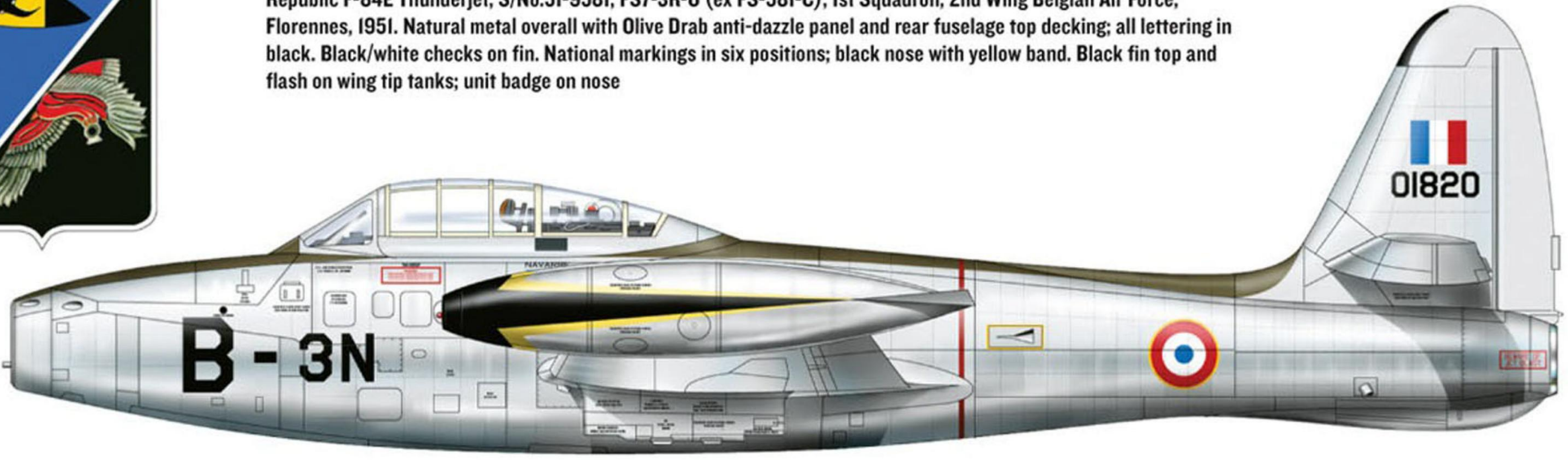

Republic F-84E Thunderjet, S/No.50-1819, FS-819/FS1, 2nd Wing, Belgian Air Force, Florennes, 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage top decking; all lettering in black. National markings in six positions



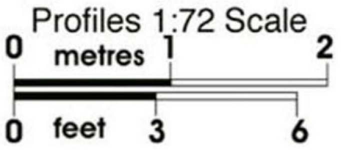

Republic F-84E Thunderjet, S/No.51-9581, FS7-3R-O (ex FS-581-C), 1st Squadron, 2nd Wing Belgian Air Force, Florennes, 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage top decking; all lettering in black. Black/white checks on fin. National markings in six positions; black nose with yellow band. Black fin top and flash on wing tip tanks; unit badge on nose

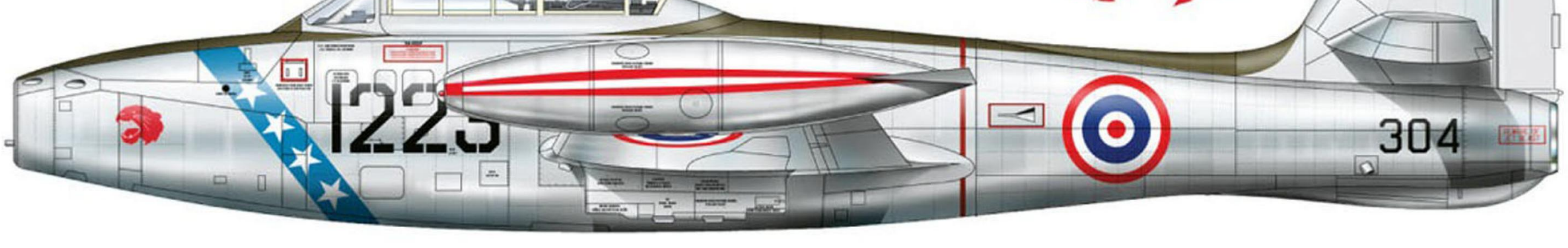


Republic F-84E Thunderjet, S/No.51-9581, FS7-3R-O (ex FS-581-C), 1st Squadron, 2nd Wing Belgian Air Force, Florennes, 1951. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage top decking; all lettering in black. Black/white checks on fin. National markings in six positions; black nose with yellow band. Black fin top and flash on wing tip tanks; unit badge on nose

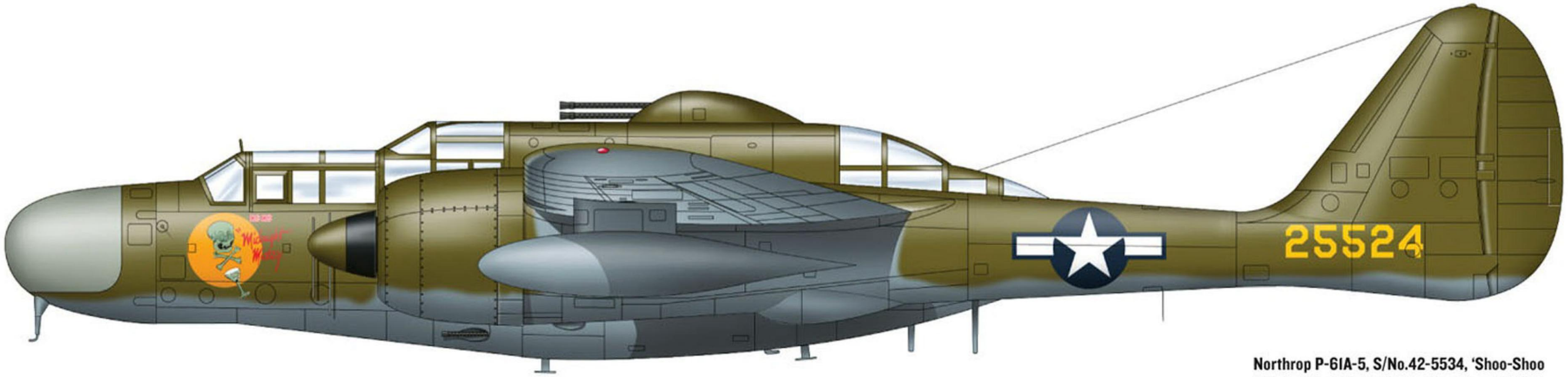


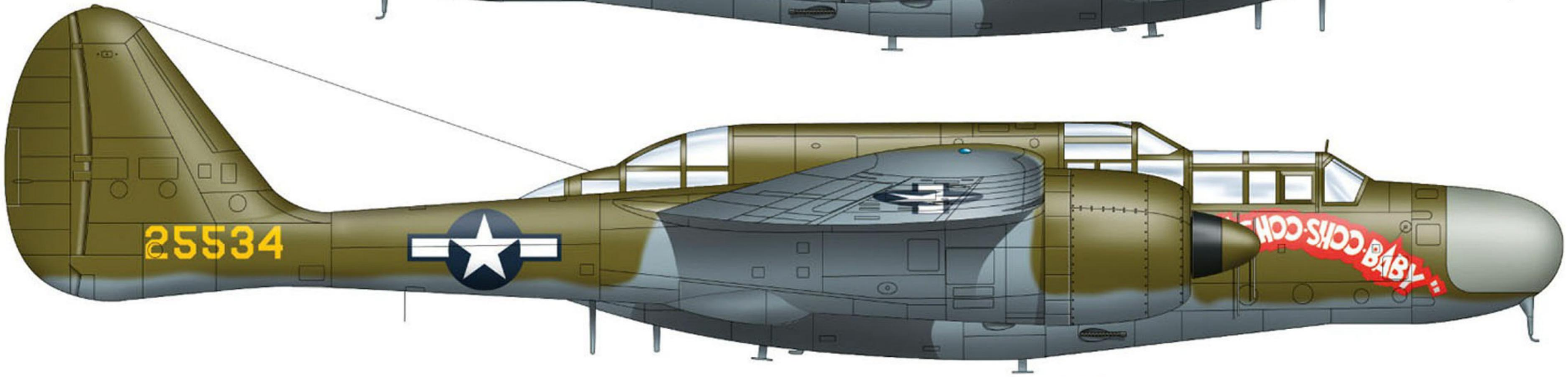

Republic F-84E Thunderjet, 1223/304, No.12 Squadron, 1st Wing, Royal Thai Air Force, Don Muang, 1957. Natural metal overall with Olive Drab anti-dazzle panel and rear fuselage decking; red fin tip, red/white flash on wing tip tanks. Light blue band with white stars around nose; unit badge on nose. All lettering in black





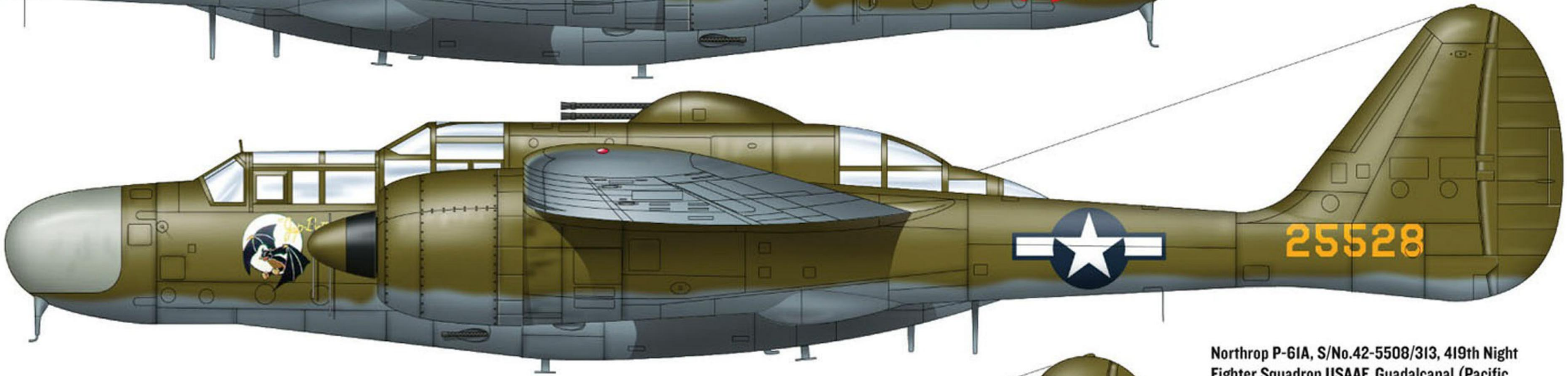
Northrop P-61A-1, S/No.42-5524, 'Moonlight Mickey', 6th Night Fighter Squadron, Saipan, USAAF, summer 1944. Olive Drab upper surfaces with Neutral Grey undersides; serial in yellow. National markings on tailboom sides, above port and below starboard wings



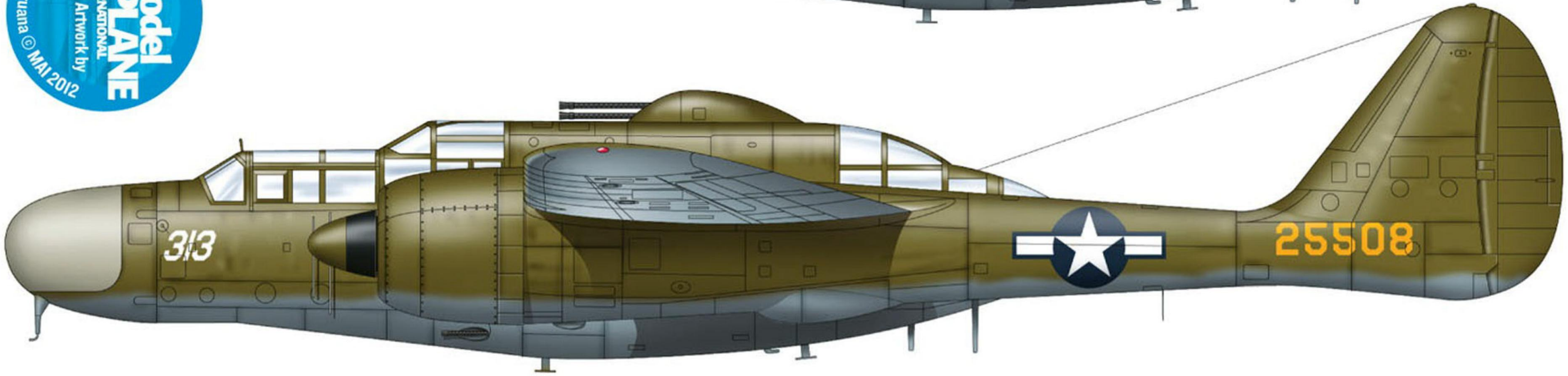

Northrop P-61A-5, S/No.42-5534, 'Shoo-Shoo Baby', 422nd Night Fighter Squadron, USAAF, Chateaudun (France) 1944. Olive Drab upper surfaces with Neutral Grey undersides; yellow serial. National markings on tailboom sides, above port and below starboard wings. Name on nose in red and white

Northrop P-61A, S/No.42-5528, 'Jap Batty', 6th Night Fighter Squadron, USAAF, Saipan, June 1944. Olive Drab upper surfaces with Neutral Grey undersides; yellow serials. National markings on tailboom sides, above port and below starboard wings




Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2012

Northrop P-61A, S/No.42-5508/313, 419th Night Fighter Squadron USAAF, Guadalcanal (Pacific Theatre), summer 1944. Weathered Olive Drab upper surfaces with Neutral Grey undersides; yellow serial and white code. National markings on tailboom sides, above port and below starboard wings

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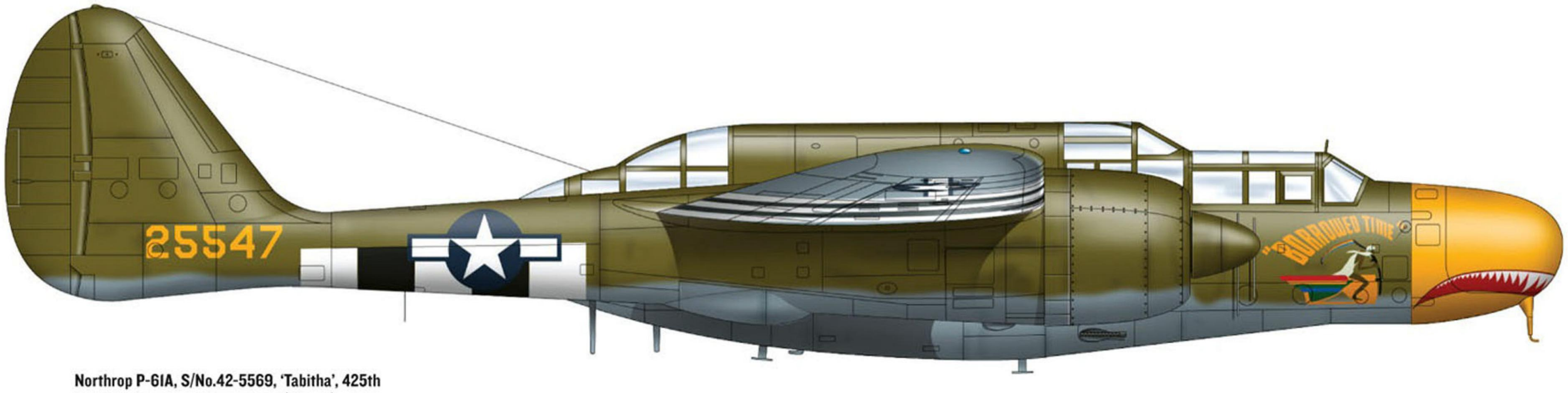
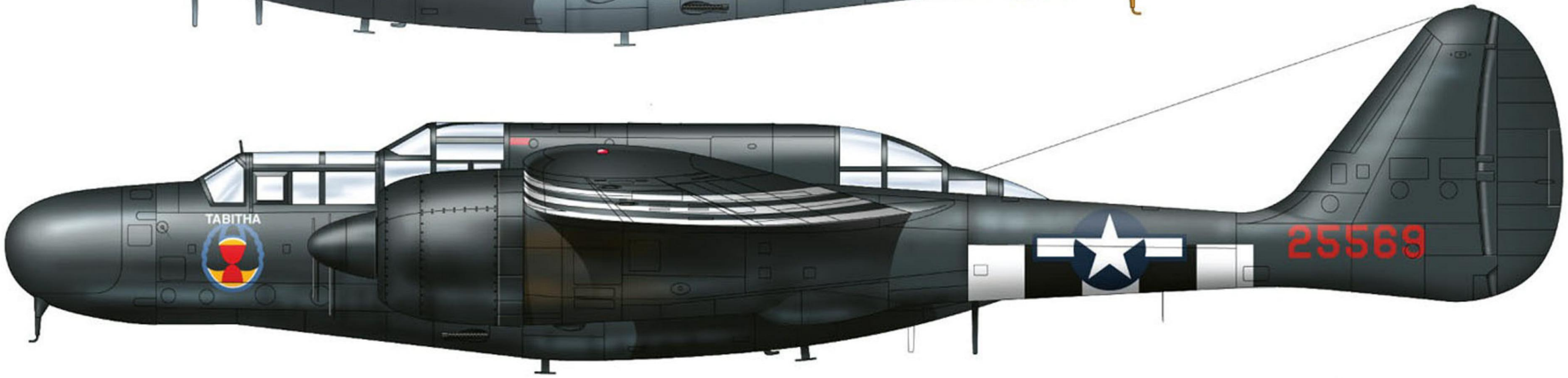
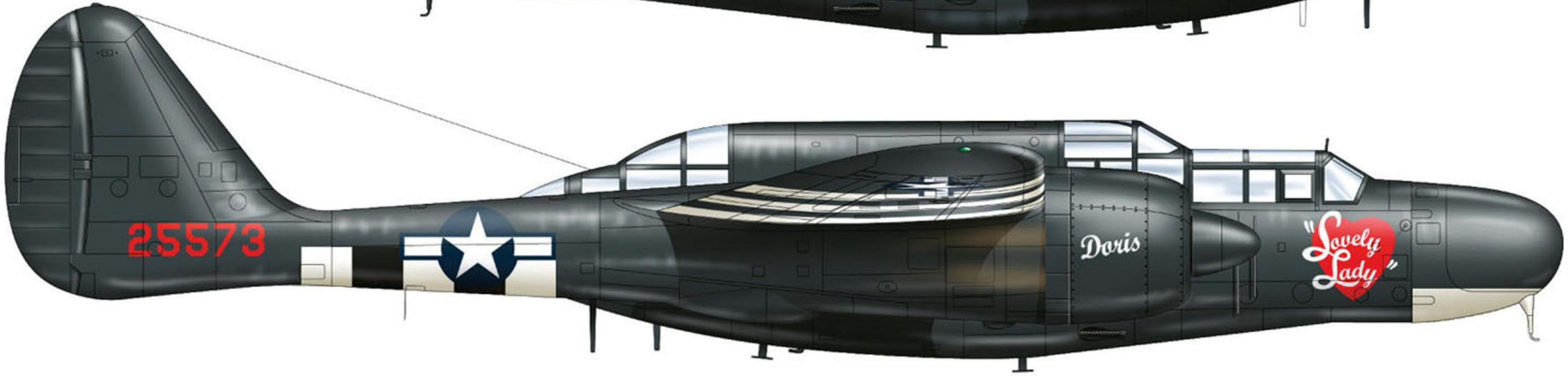


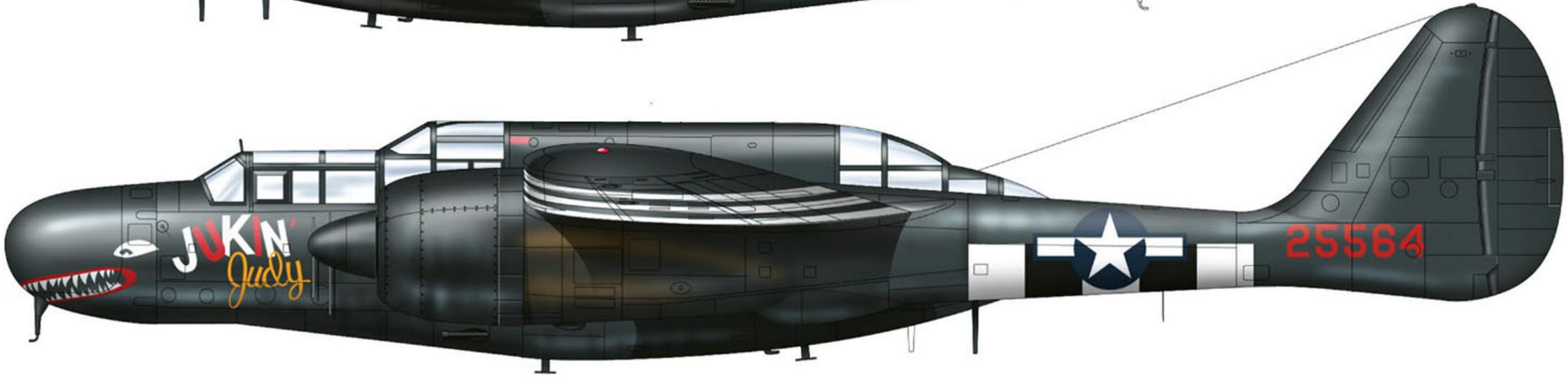

Northrop P-61A, 42-5508/313, 419th Night Fighter Squadron USAAF, Guadalcanal (Pacific Theatre), summer 1944. Weathered Olive Drab upper surfaces with Neutral Gray undersides; yellow serial and white code. National markings on tailboom sides, above port and below starboard wings



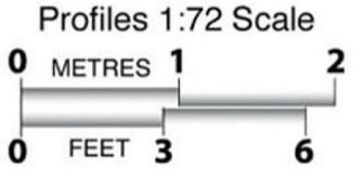

Northrop P-61A, S/No.42-5569, 'Tabitha', 425th Night Fighter Squadron, Vannes (France), late 1944. Jet Black overall with white 'D-Day' bands around the wings and on lower half of tail booms. Red serial; national markings on sides of tail boom, above port and below starboard wings. Personal nose art in blue/white/red/yellow



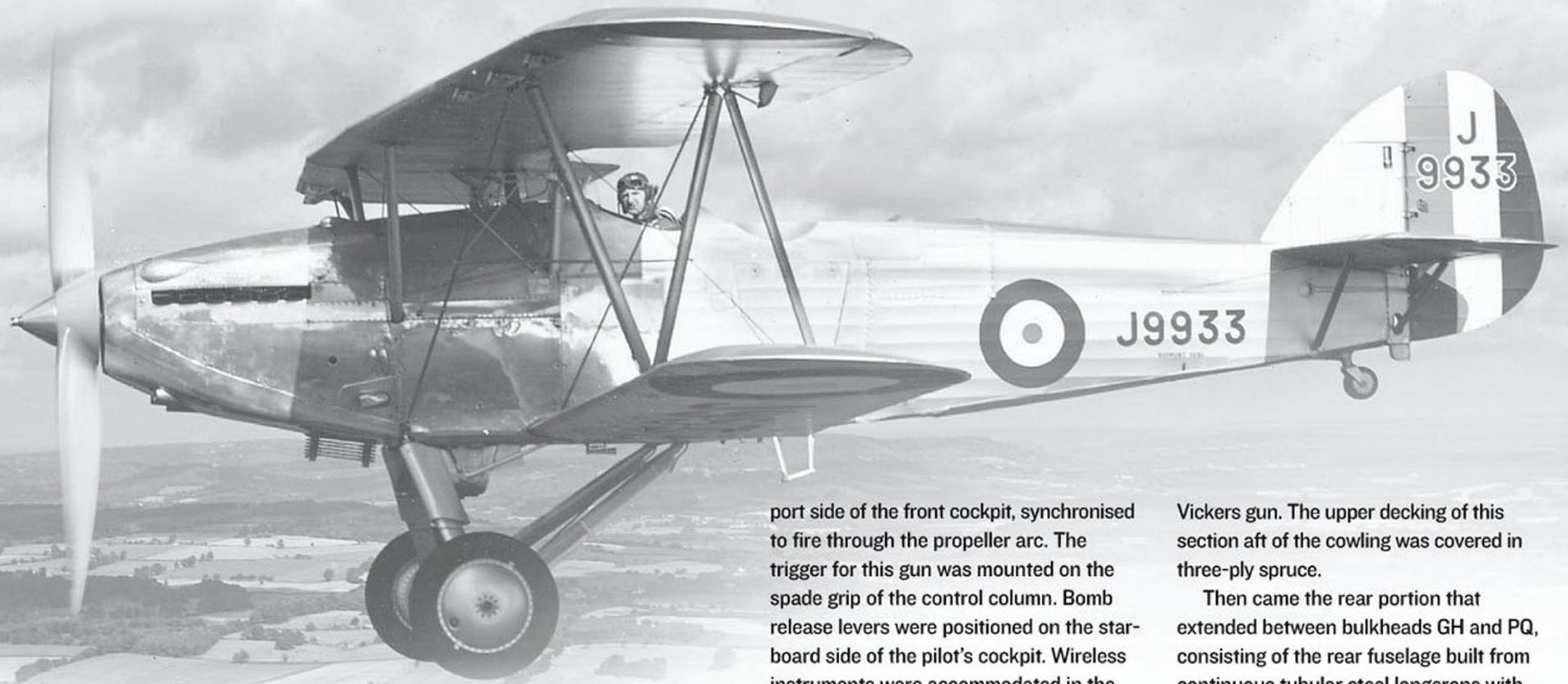

Northrop P-61A-10, S/No.42-5573 'Lovely Lady', 422nd Night Fighter Squadron, USAAF, Etain (France), July 1944. Jet Black overall with white D-Day bands around wings and below rear of tail booms; red serials. Nose art in red and white, together with white 'Doris' on port engine cowling. National markings on tailboom sides, above port and below starboard wings




Northrop P-61A, S/No.42-5564, 'Jukin' Judy' 422nd Night Fighter Squadron, Etain (France), late 1944. Jet Black overall with white 'D-Day' bands around the wings and on lower half of tail booms. Red serial; national markings on sides of tail boom, above port and below starboard wings. Personal nose art in red/white/yellow



# THE HAWKER HART




The first production Hart, J9933, which went through a series of developments during its life. In October 1930 it was re-engined with a Kestrel II to serve as Demon prototype but eventually went to No. 33 Squadron in September 1932, and later served also with No. 18 (Hawker Siddeley Aviation)

Sydney Camm's Hawker Hart was the most significant technical step forward produced by the British aviation industry during the 'peaceful' period between the two world wars. It was also the most important tactical advancement made by the Royal Air Force ahead of the Expansion Scheme of 1936.

After World War I ended, reliance on ex-wartime aircraft and their derivatives had been stretched to the limit, and even beyond obsolescence in most cases while the aero-engine industry was practically in hibernation. Although designers were eager to explore and develop new techniques, new aircraft designs and better engines, finance for such projects were just not available.

Operating on meagre budgets that were being offered, Sydney Camm of HG Hawker Engineering Co slowly progressed through a series of interesting and innovative projects such as the Hornbill and Heron of 1925. Of these, the former was of particular importance as the designer had built the smallest possible airframe around a powerful water-cooled in-line engine. Though the Heron was powered by the more conventional Jupiter radial, it introduced a metal fuselage primary structure developed by F Sigrist, Director-colleague of Sir Thomas Sopwith.

Through these and other fighter projects, Camm's conviction regarding the future of the water-cooled in-line engine gained ground and in 1926 he sought the assistance of Rolls-Royce whilst working on Air Ministry Specification 12/26 calling for a light bomber. This specification required that the new aircraft was required to enter service in 1930. The timing was more dependent on the British Treasury's Ten Year Rule rather than foresight or the Royal Air Force's (RAF) service requirements!

Rolls-Royce responded by developing its Falcon F.I into the F.XIA, differing principally in having one-piece cast cylinder banks. On its part, Hawker progressed with its project under great secrecy, such was the cut-throat competition during that era. Through its two years of design development and prototype construction, Camm ensured that every sensible innovation that could be introduced into his design would be seriously considered, evaluated, tested and installed if found to be advantageous. Finally, J9052 was ready for its first flight by Flt Lt W.. 'George' Bulman in June 1928, followed by a six-month trial period at the Aeroplane and Armament Experimental Establishment (A&AEE) at Martlesham Heath. These, too, were conducted under a veil of strict security as it was not until a year later that Hawker's light bomber was publicly displayed at the Olympia Aero Show alongside the Hornet fighter and Tomtit trainer from the same stable.

During competitive trials, the Hart (as it was now officially named) not only confirmed its superiority over the competing Fairey Fox II (J9834) and Avro Antelope (J9183), but also put into obsolescence all contemporary fighter aircraft the RAF had on its inventory! It was clear that Hawker's light bomber heralded a new era in technical standards. An initial production order for 15 development aircraft (J9933-J9947) was issued under Specification 9/29.

Air Publication 1404A (Volume I) describes the Hart as "a two-seater biplane, high-performance day bomber, fitted with a Kestrel I.B non-supercharged engine of 510hp or Kestrel X (de-rated) engine of 510hp".

The aircraft was of metal construction, fabric-covered, and both steel and duralumin were used in the structure. The front or pilot's cockpit housed a complete set of instruments typical of the period mounted on the board under the decking and the pilot could adjust the height of his seat even in flight by the operation of a lever attached to the starboard side of the seat. A Vickers .303in gun was mounted on the port side of the front cockpit, synchronised to fire through the propeller arc. The trigger for this gun was mounted on the spade grip of the control column. Bomb release levers were positioned on the starboard side of the pilot's cockpit. Wireless instruments were accommodated in the rear cockpit together with a Lewis gun and magazines, chart boards, duplicate bomb release gear and course setting bombsight. For bombing duties, the air-gunner moved down to the prone position and opened a sliding door in the fuselage floor for downward view. Communication between pilot and air-gunner was through the use of speaking tubes.

The fuselage was made up of four main sections, of all-metal construction except for the fairing around the cockpits which was of wood. The foremost section consisted of the engine mount right up to the engine firewall, the mount being completely detachable from the rest of the fuselage. Between bulkheads AB and GH was the centre portion built up of steel tubing for the main members and duralumin for secondary items. An opening in the floor just aft of the firewall housed the radiator and its retraction gear while the first bay supported the main fuel tank on the top longeron and the oil tank between the diagonal side struts. The second bay contained the pilot's cockpit and controls while the third bay contained the air-gunner's cockpit with the cowling on top of it supporting the Lewis gun mounting. The front section and the forward section of the second section were covered in aluminium panels back to frame CD with an additional panel on the port side extending nearly to frame EF. Cowling panels on the port side were provided with blast throughs for the fixed Vickers gun. The upper decking of this section aft of the cowling was covered in three-ply spruce.

Then came the rear portion that extended between bulkheads GH and PQ, consisting of the rear fuselage built from continuous tubular steel longerons with side bracing of duralumin tube arranged as an N-girder. It included space for a service camera in its forward section and the tail skid structure at its rear end. A ballast carrier tube was positioned at joint M, able to carry three AGS 670 weights on either side. The fourth section consisted of the stern frame, built as a separate assembly. Its rear bushes received the sternpost and the tailplane elevating jack, the former having an auxiliary skid fitted to protect that part of the fuselage should the normal tail skid fail. The entire fuselage was fabric covered except for the aluminium cowling panels.

The mainwheel undercarriage was of the through-axle type with oleo strut to joint B and radius rods to joint F, cross-braced with streamline wires. Pattern 'A' wheels, 800mm x 150mm, were fitted, later replaced by Pattern 'C' wheels (19in x 3.5in). The tail unit was of conventional design with an adjustable tailplane with horn-balanced elevators mounted over the top of the fuselage. The fin was braced to the rear tailplane spar and the corners of the rear decking plate. The rudder was also horn-balanced.

The single-bay main planes of the Hart were of RAF 28 profile throughout, wire braced biplane type, struts being employed for the outer incidence bracing. A considerable degree of stagger was employed and the top planes were slightly swept back from the centre section plane to which they were

Hawker's own G-ABMR after being repainted to represent J9941 of No. 57 Squadron. It is now preserved in the RAF Museum, Hendon (Hawker Siddeley Aviation)

Starboard side detail of the Swedish Air Force Museum B 4 Hart, showing the fixed gun on this side and a similar Browning machine gun in the rear air-gunner's cockpit (Lars Henriksson)

attached. Struts attached to joints A and C in the fuselage supported the top wing which incorporated a gravity fuel tank in the starboard half of the centre section, the latter also having hand grips to assist the pilot in leaving the cockpit. The top main planes were swept back 5º from the centre section, built on two spars of high tensile steel strip to which 17 ribs built up from duralumin sections were attached by pierced rivets. Auto slots, 6ft long were attached to each top wing, each supported on three brackets, while ailerons were of the Frise type. The lower wing was of smaller chord and had no sweepback. It was similarly built up on two spars and same number of ribs as for the top wing. The structure consisted for four drag panels, both port and starboard lower wings arranged to carry a load of bombs. Both top and bottom wings, together with the top centre section, were fabric-covered, the fabric being strung to the top and bottom rib flanges. Tear-off patches were provided at all drag bracing fittings and inspection doors for access to the aileron control cable joints.

Twelve of the initial fifteen Harts on order were delivered in April 1930 to No 33 Squadron, commanded by Sqn Ldr J. Breen, at Eastchurch, previously equipped with the Hawker Horsley. Well before the squadron had completed its work up period it placed second in the annual inter-unit bombing competition, barely three months from receiving its first Hart. One of the production development Harts was shipped to India where it was evaluated at Risalpur in an attempt to find a decent replacement to the Bristol Fighter and Siskin then in service. This aircraft was lost in an unfortunate bird-strike accident but enough testing had been carried out for the development and production of the Hart (India). Nos 11, 39 and 60 Squadrons shared between them the 57 examples built of this type (K2083-K2132, K3921, K3922, K8627-K8631) to Specifications 9/31 and 12/33.

Further orders for Home Service squadrons had meanwhile also been placed, 82 examples being raised between 1930 and 1931. These consisted of 32 Hart I Bombers (K1416-K1447) to Contract No. 262750/30 and 50 Hart I Bombers and Hart C (communications) aircraft (K2424-K2473) under Contract No. 117876/31. Most of these went to re-equip a number of front-line bomber squadrons, including Nos 12, 18 and 57.

The 1930 Air Exercises had proved the Hart to be superior not only to the RAF's contemporary bombers but also to all of its fighters, setting the phrase that 'it takes a Hart to catch at Hart'. Although the Hawker Fury single-seat fighter (SAMI Vol.3 No. 8, August 1997) was already well into its production phase, the Air Ministry issued Specification 15/30 calling for a fighter version to be powered by the Kestrel IIS. Hawker built six examples (K1950-K1955 to Contract No. 563380/30) which went to form a Flight within No 23 Squadron based at Kenley. This version of the Hart became the future Hawker Demon.

So radical was the Hart as a service machine that the need arose for a dual-control, training version. Such a modification was indeed simple, thanks to its original two-seat layout, although in actual fact the prototype (K1996) was converted from a Hawker Audax. A problem arose as the centre of gravity shifted due to the removal of the gun ring and bombing gear. As a result, sweepback on the top wing of the Hart Trainer was reduced from 5º to 2.5º. An increase in fin area was also considered but found to be unnecessary in practice. Two further 'interim' machines were built (K3474, K2475) before the first 13 production examples were ordered through Contract No. 246227/33 (K3146-K3158).

Further production orders that were forthcoming proved to be a strain on Hawker's production facilities. Licence production was therefore arranged so that Vickers could build 65 Hart bombers to Contract No 198868/32 (K2966-K3030), soon followed by a further 24 through Contract No 198870/32 (K3031-K3054) awarded to Armstrong Whitworth. Further Hart Trainers built by Hawkers consisted of 21 examples (K3743-K3763), 1 Hart Trainer Special (K4617) and 20 Series 2 (K4751-k4770) for use in Temperate climes. Vickers built 47 Hart Single-Seat Day Bombers (SEDB) under Contract No 262680/33 (K3808-K3845) and 114 Hart Trainers Special 2A fitted with Tropical radiators (K5784-K5879). Armstrong Whitworth built 50 Hart SEDB and C most of which were completed as Audaxes, Harts Trainer (Interim) and Harts Trainer Special together with two batches of Harts Trainer Special 2A, 167 (K4886-K5052) and 136 (K6415-K6550) respectively.

Meanwhile, the Hart featured prominently in the RAF of the mid-thirties, and also went to equip Nos. 6, 12, 15, 39, 40, 60, 142 Squadrons while units of the Royal Auxiliary Air Force (RAuAF) flying the Hart included Nos. 500, 501, 503, 600, 601, 602, 603, 605, 609, 610, 611. Use of the Hart Fighter by a Flight of No. 23 has already been mentioned above.

While the single-seat Fury fighter, which clearly displayed its ancestry in the Hart, and other derivatives within the same family of aircraft found such a wide export market, the Hart itself did not fare well in this regard. One reason that has often been offered for this was that Hawker did not have the facilities or finance available to support its export sales.

The first overseas customer for the Hart was Estonia, with an order for eight examples (146-153) that were delivered in the autumn of 1932. These were equipped with interchangeable wheel and float undercarriage, the latter arrangement having been successfully tested on another Hart offspring, the naval version known as the Osprey. Little is known about the fate of these aircraft.

Far better known is the history of the Swedish Harts. Sweden was one of the countries visited between 1931 and 1932 by a Hawker's demonstration team, and following further inspections by Swedish officials at Filton and Brooklands where various Hart test-beds were undergoing trials, an order was placed for three pattern aircraft (1301-1303) for the Swedish Air Force (SAS). These were to be delivered during 1934, powered by a 580hp Bristol Pegasus IM2 radial engine. A licence was also acquired for the construction of a further 42 examples by ASJA, Götaverken and CFM in Sweden, these to be powered by a licence-built 550hp Nohab Pegasus IU2 engine. Swedish Harts were identified by the designation B 4 for the former and B 4A for the latter, while two examples fitted with a Bristol Perseus XI engine of 755hp were designated B 4B.

Serials in SAS ran from 701 to 745 and were built as follows: Hawker – 701 to 703, CFM – 704 to 712, 728 to 739; ASJA – 713 to 724, 740 to 745; Götaverken – 725 to 727. They were operated between 1936 and 1947 by F1 at Västerâs, F4 at Frösön, F6 at Karlsborg, F7 at Såtenäs, F8 at Barkarby, F9 at Säve, F10 at Ängelholm, F11 at Nyköping, F12 at Kalmar, F17 at Ronneby and F21 at Luleå. It must be stressed, however, that only the first four units (and particularly the first three) were ever equipped with the Hart in great numbers, the other units fielding between one and three examples in combination with other types.

The Swedish Hart differed from the original not only in its power plant but also in various other details. Foremost among these was its armament, consisting of a Browning 8mm M/22 gun fixed on the starboard side (instead of port) and a similar hand-operated gun in the rear cockpit. An external recognition feature was its larger area fin and rudder.

When Russia attacked Finland in November 1939, F19 was set up on 19 December 1939 by Swedish volunteer pilots under the command of Major Hugo Beckhammar equipped with aircraft purchased with money collected among the Swedish public. Four Hart B 4 bombers (a fifth being added later) formed part of the unit which was also equipped with Gloster Gladiators (see SAMI Vol.7/1, January 2001). The Harts had their baptism of fire on 12 January 1940 when they flew a reconnaissance and ground-attack mission against troops and the airbase at Märkajärvi, Salmijärvi, Salla.

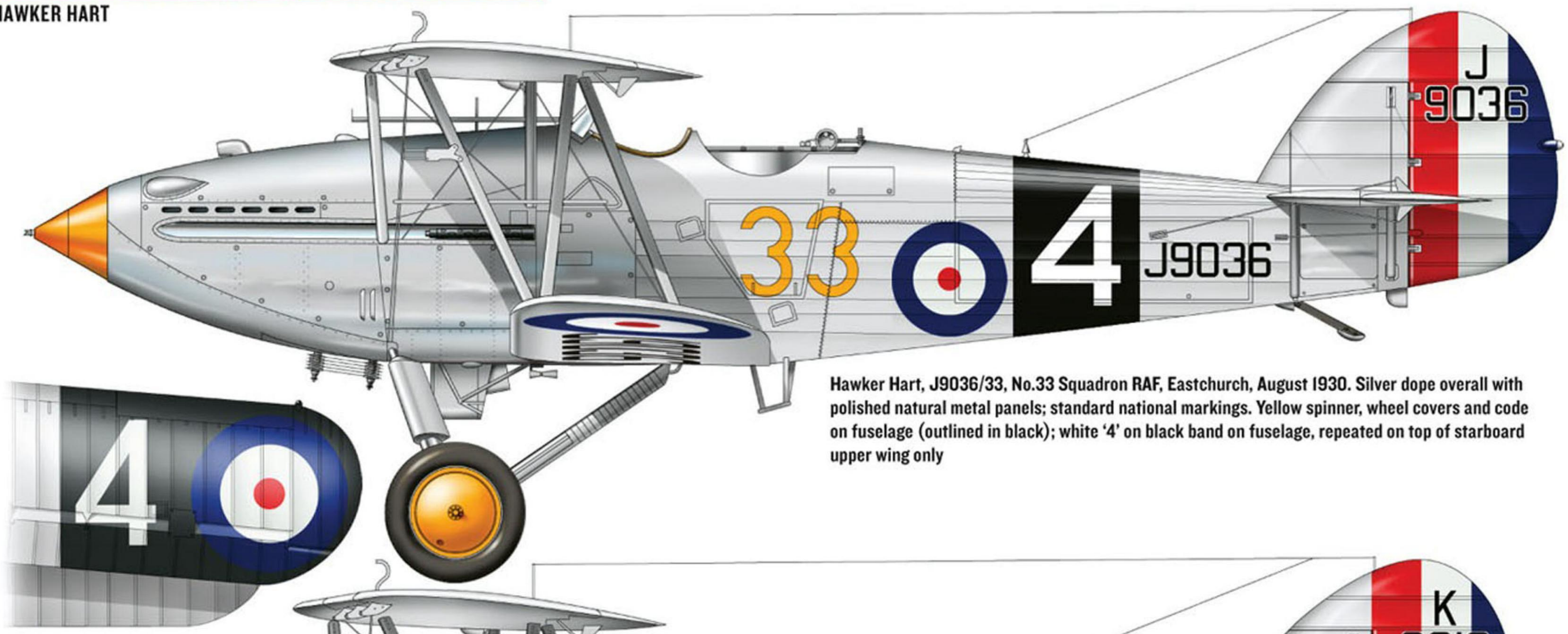
During this attack the Gladiators shot down one I-15 and destroyed a second on the ground, while two further I-15s were credited to Harts flown by Överstelöjtnant Per E. Sterner and Löjtnant Nils Åke Mörne, also destroyed on the ground. Three of the Harts, however, were lost during that attack, two of which in an air-to-air collision. Sterner became a Soviet prisoner of war, while his observer Löjtnant Anders Zachau, was killed. Fänrik Arne Jung also became a Soviet POW but his observer Furir Matti Sundsten managed to ski back to the Finnish lines. The third, flown by Fänrik Gunnar Färnström, was attacked by three I-15s and suffered enough damage to force the pilot make an emergency landing. Another attack was mounted on the night of 18-19 February with another I-15 credited as destroyed on the ground awarded to Löjtnant Nils Åke Mörne.

Front view showing engine detail of the Hart B 4 at the Swedish Air Force Museum (Lars Henriksson)

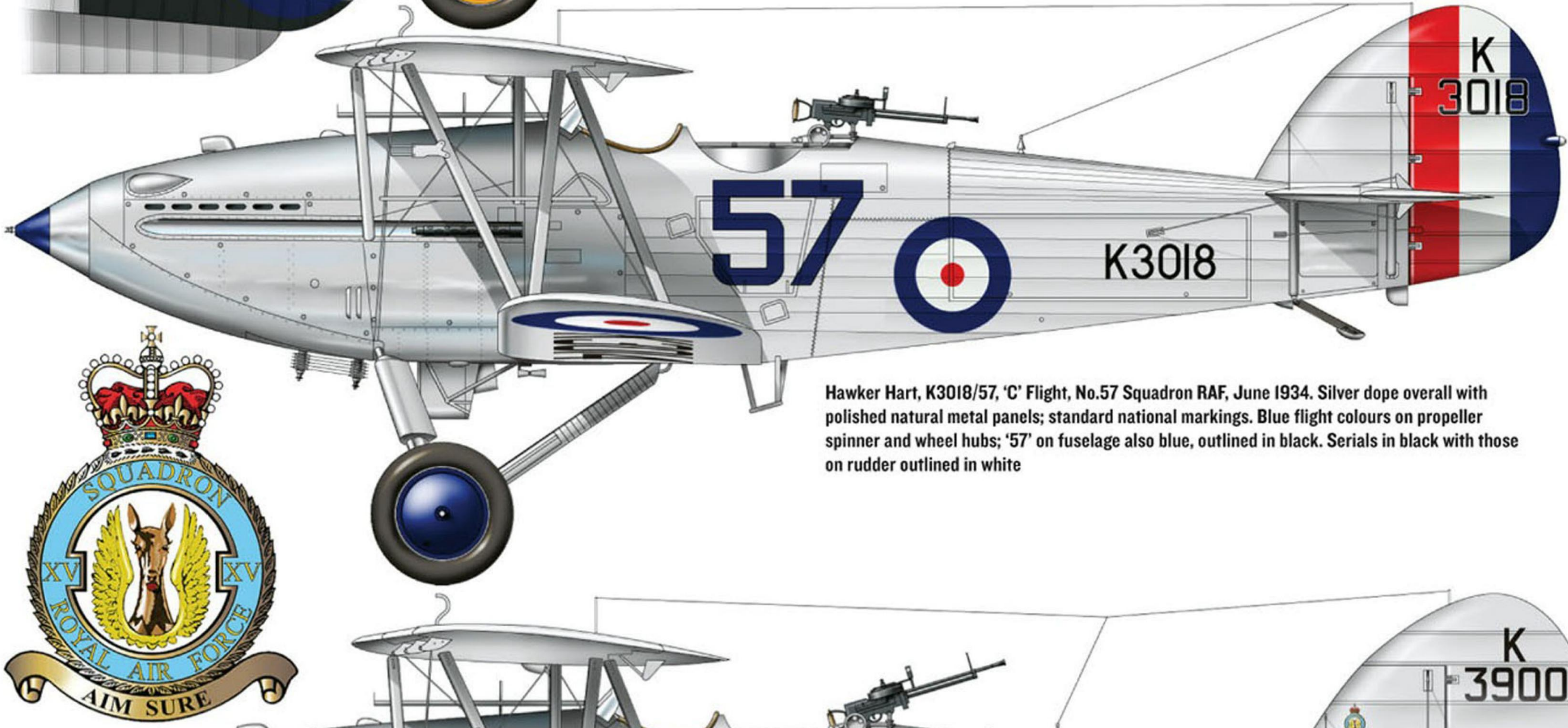
A final sortie by Mörne and Färnström took place on 12 March when the two Harts attacked road traffic. The following day the Winter War ended and on 29 March one of the bombers flew back to Sweden, followed by the second survivor the day after. The five Harts operated with Finnish markings, and carried the codes R, Z, Y, X and M on their rudders.

Four ex-RAF Harts are reportedly to have been loaned to the Yugoslav Air Force in 1931 while a number of other ex-RAF machines were supplied to South Africa and Rhodesia just prior to the Second World War. © **Richard J. Caruana – 2012**

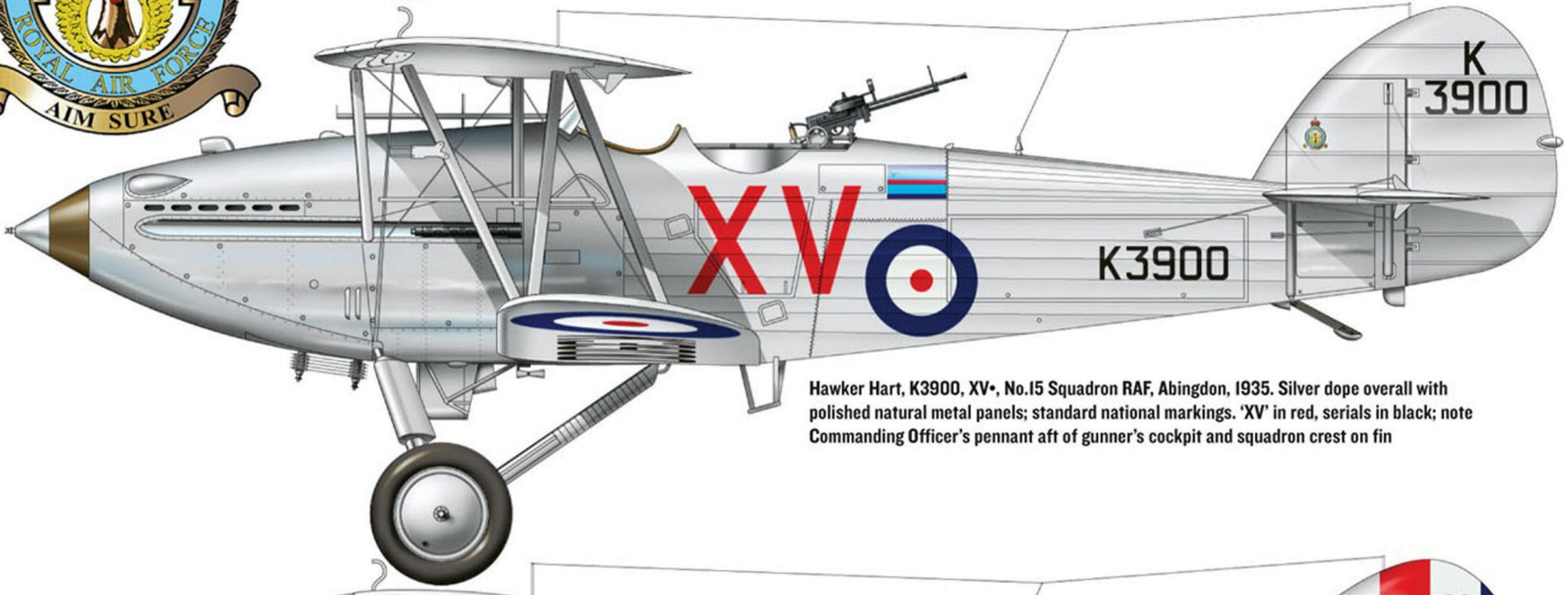
***ACKNOWLEDGEMENTS:*** *My sincere thanks to Mikael Östberg for the material and advice he has provided on the Swedish Harts and Lars Henriksson for his photographs of the Swedish Air Force Museum example.*



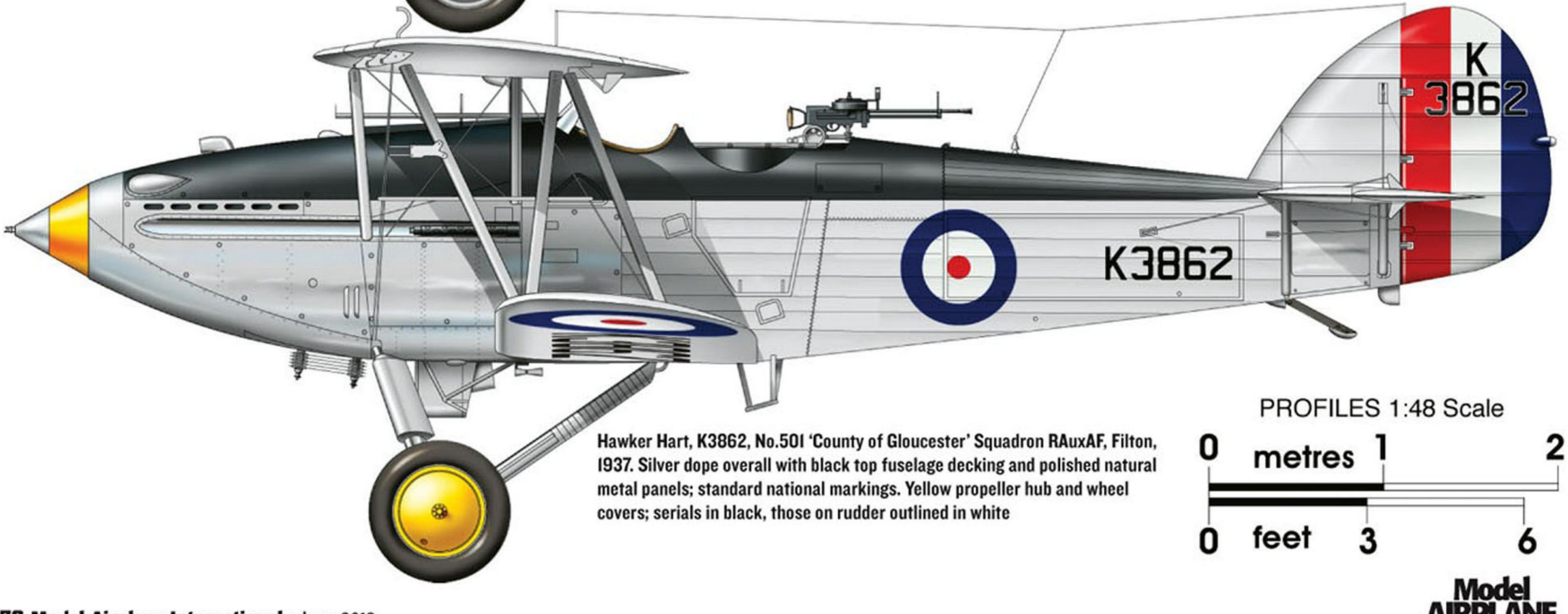

Hawker Hart, J9036/33, No.33 Squadron RAF, Eastchurch, August 1930. Silver dope overall with polished natural metal panels; standard national markings. Yellow spinner, wheel covers and code on fuselage (outlined in black); white '4' on black band on fuselage, repeated on top of starboard upper wing only




Hawker Hart, K3018/57, 'C' Flight, No.57 Squadron RAF, June 1934. Silver dope overall with polished natural metal panels; standard national markings. Blue flight colours on propeller spinner and wheel hubs; '57' on fuselage also blue, outlined in black. Serials in black with those on rudder outlined in white




Hawker Hart, K3900, XV•, No.15 Squadron RAF, Abingdon, 1935. Silver dope overall with polished natural metal panels; standard national markings. 'XV' in red, serials in black; note Commanding Officer's pennant aft of gunner's cockpit and squadron crest on fin




Hawker Hart, K3862, No.501 'County of Gloucester' Squadron RAuxAF, Filton, 1937. Silver dope overall with black top fuselage decking and polished natural metal panels; standard national markings. Yellow propeller hub and wheel covers; serials in black, those on rudder outlined in white

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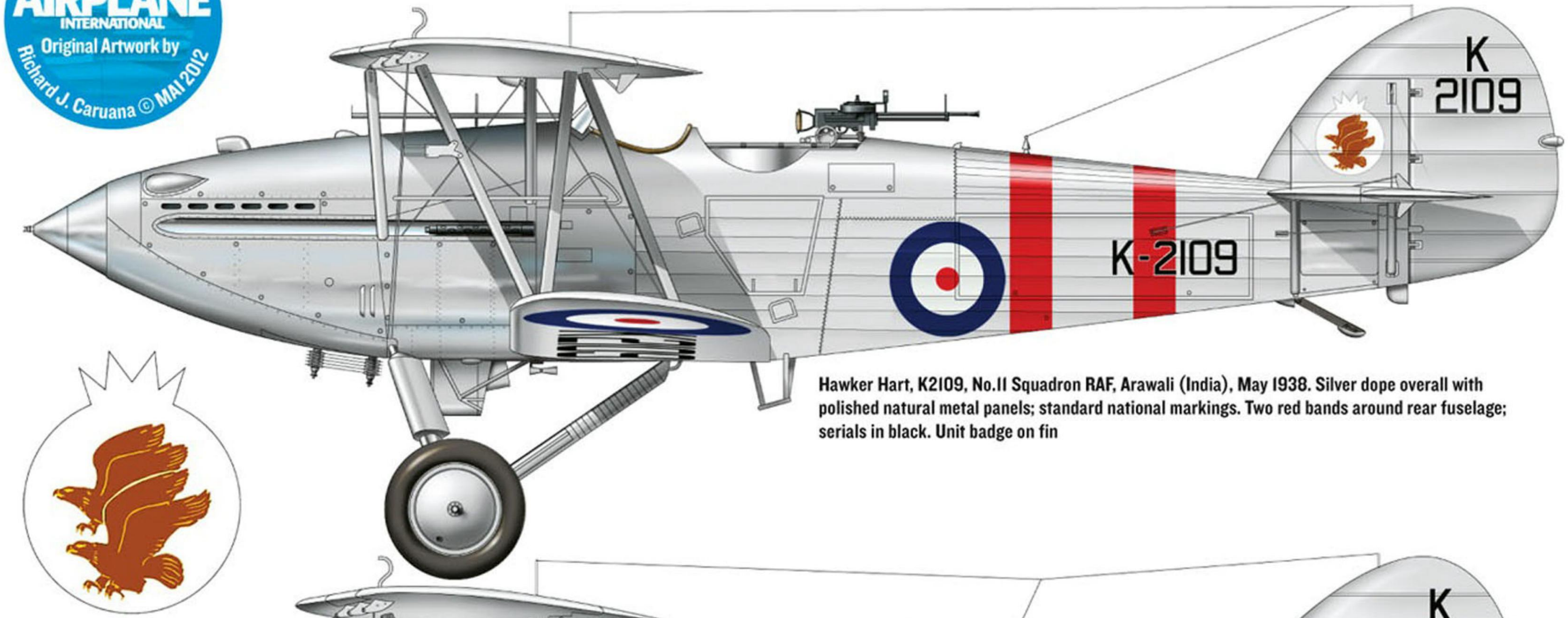
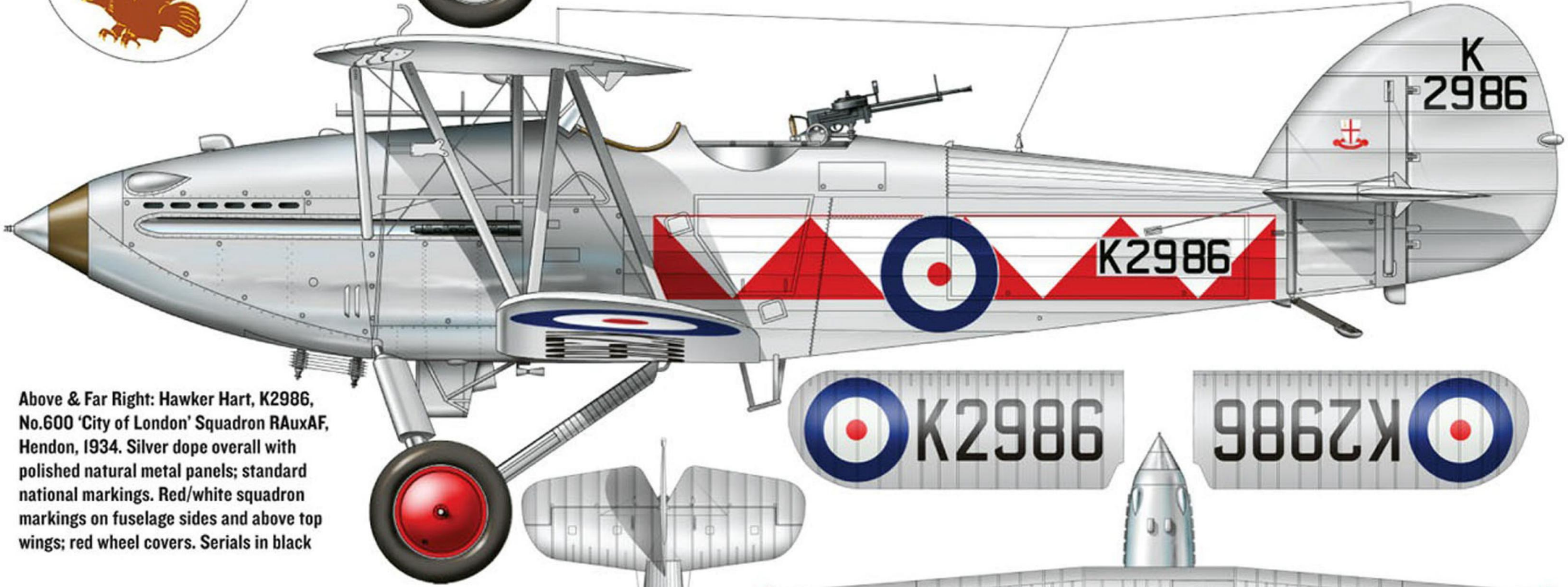
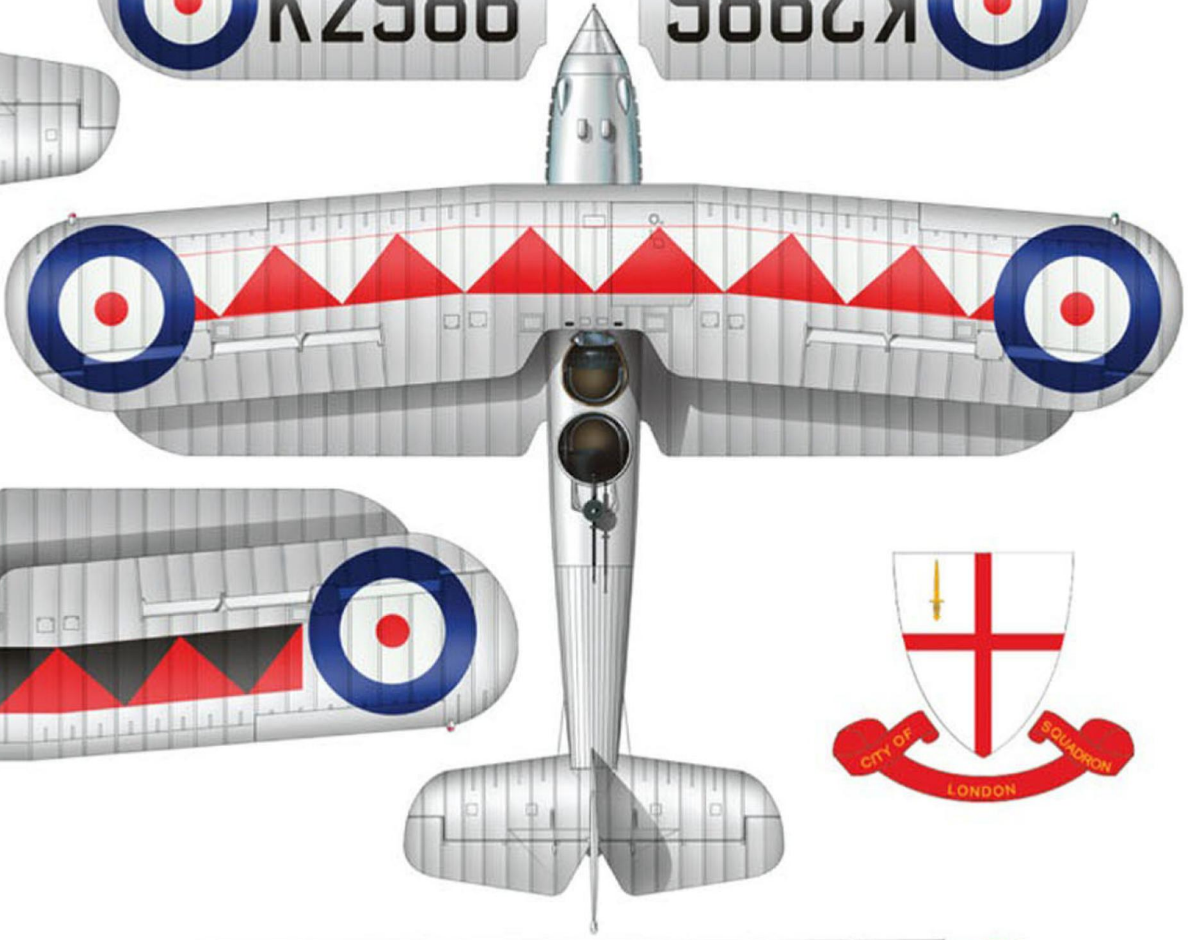
Original Artwork by Richard J. Caruana © MAI 2012

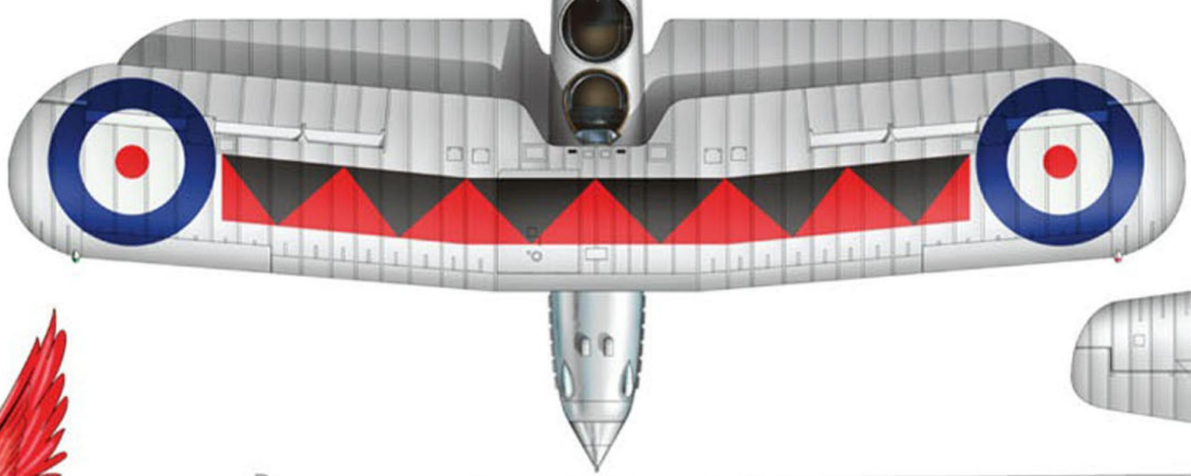



Hawker Hart, K2109, No.11 Squadron RAF, Arawali (India), May 1938. Silver dope overall with polished natural metal panels; standard national markings. Two red bands around rear fuselage; serials in black. Unit badge on fin

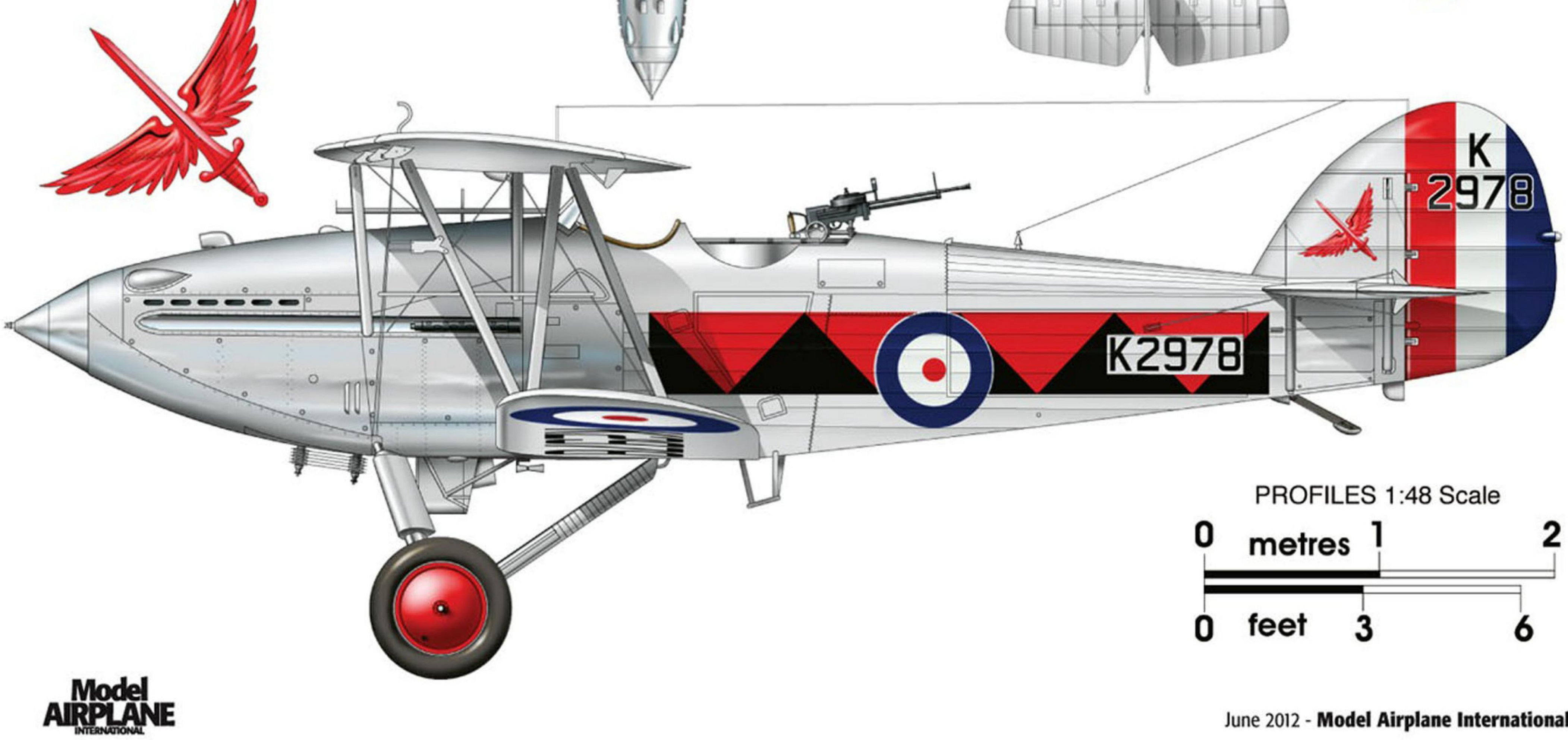



Above & Far Right: Hawker Hart, K2986, No.600 'City of London' Squadron RAuxAF, Hendon, 1934. Silver dope overall with polished natural metal panels; standard national markings. Red/white squadron markings on fuselage sides and above top wings; red wheel covers. Serials in black



Right & Below: Hawker Hart, K2978, 'A' Flight, No.601 'County of London Squadron RAuxAF, Hendon, 1934. Silver dope overall with polished natural metal panels; standard national markings. Red/black squadron markings on fuselage sides and above top wing; serials in black, with those on rudder outlined in white




PROFILES 1:48 Scale

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Hawker Hart K2096, 2•, No.39 Squadron RAF, Miramshah (India), circa. 1932. Silver dope overall with polished natural metal panels; standard national markings. Black vertical bands around rear fuselage, serials also in black. Unit badge within a white 'grenade', outlined in black, on fin

Above & Right: Hawker Hart Fighter, KI952, 'B' Flight, No.23 (F) Squadron RAF, Biggin Hill, mid-1930s. Silver dope overall with polished natural metal panels; standard markings consisted of roundels on fuselage sides, above top wings and below bottom wings. Serial in black on fuselage sides and below bottom wings; outlined in white on rudder bars. Flight colour (yellow) on prop hub, wheel covers, fin and tailplane; unit marking in a white circle on fin (both sides)

Below: Hawker Hart, K2085, No.1 Service Flying Training School, RAF Ambala (India), 1941. Silver dope overall with polished natural metal panels; yellow surround to fuselage roundel only, standard blue/white/red above top and below bottom wings. All lettering in black; wheel hubs believed to be red

PROFILES 1:48 Scale

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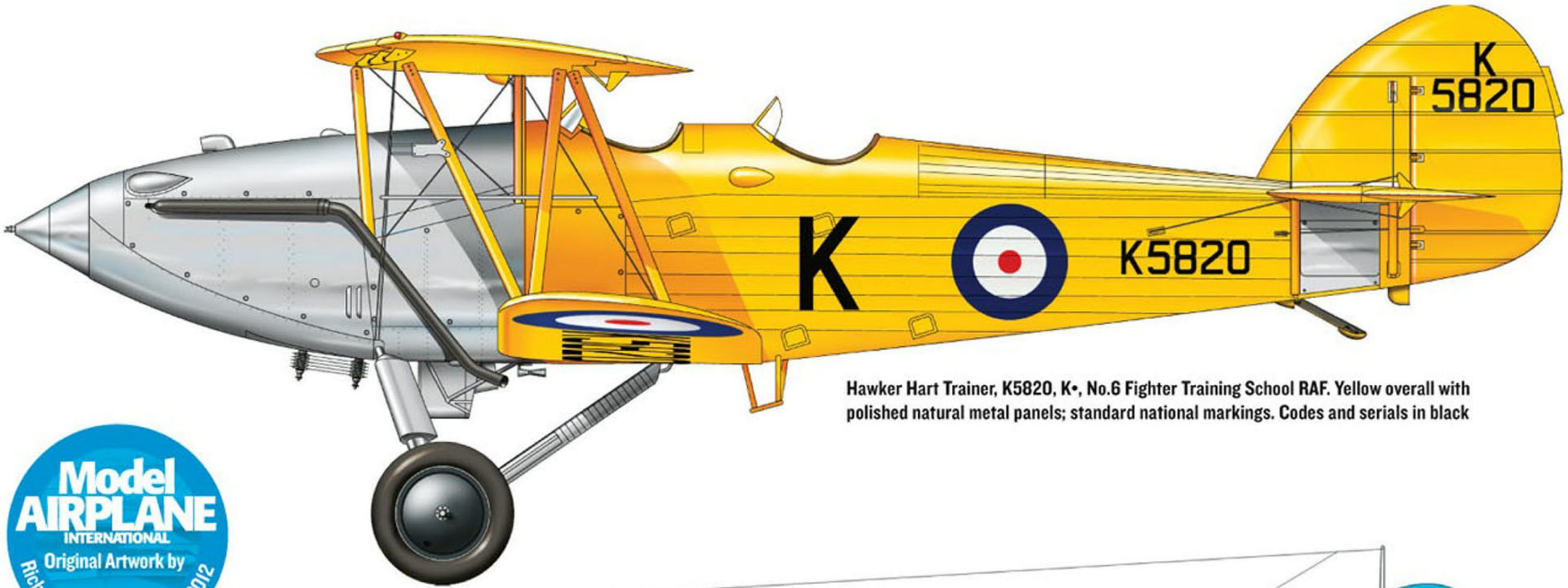


Hawker Hart Trainer, K5820, K•, No.6 Fighter Training School RAF. Yellow overall with polished natural metal panels; standard national markings. Codes and serials in black

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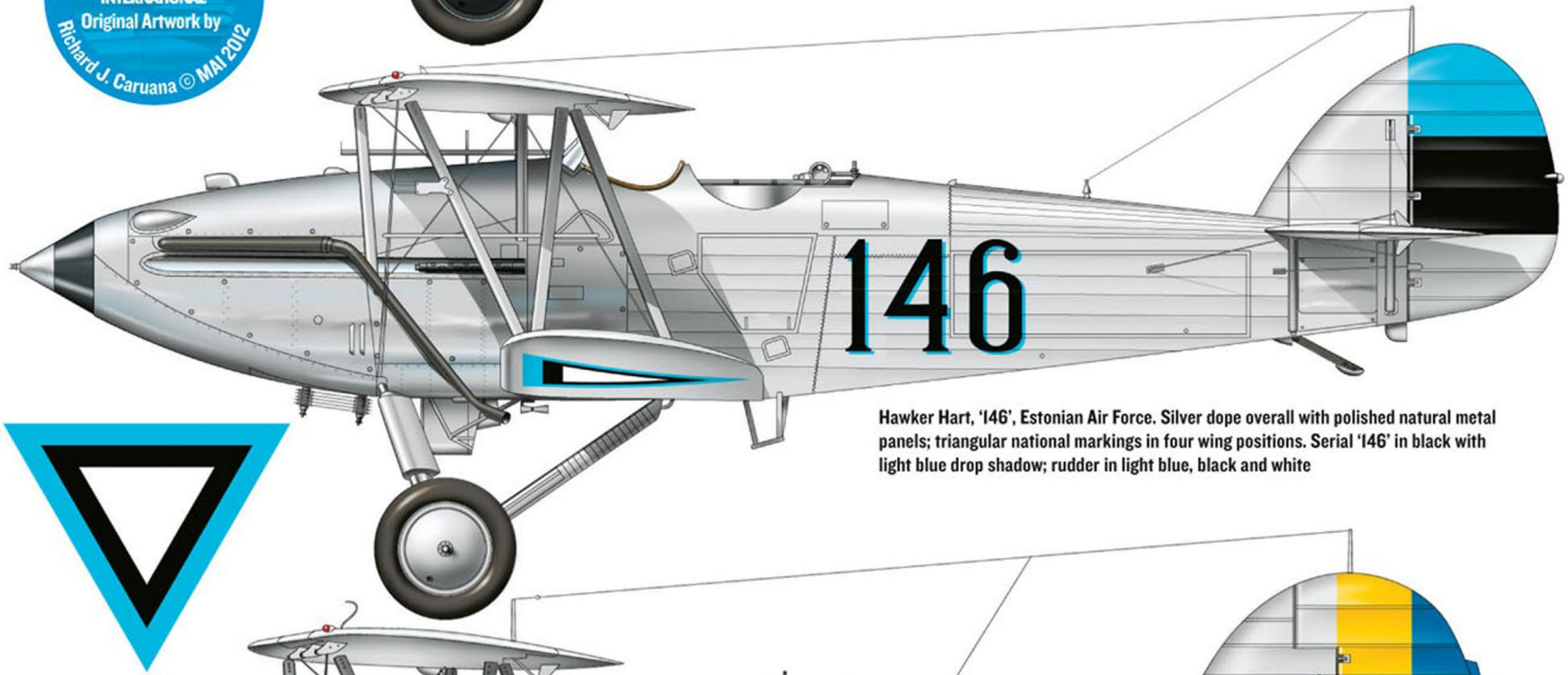
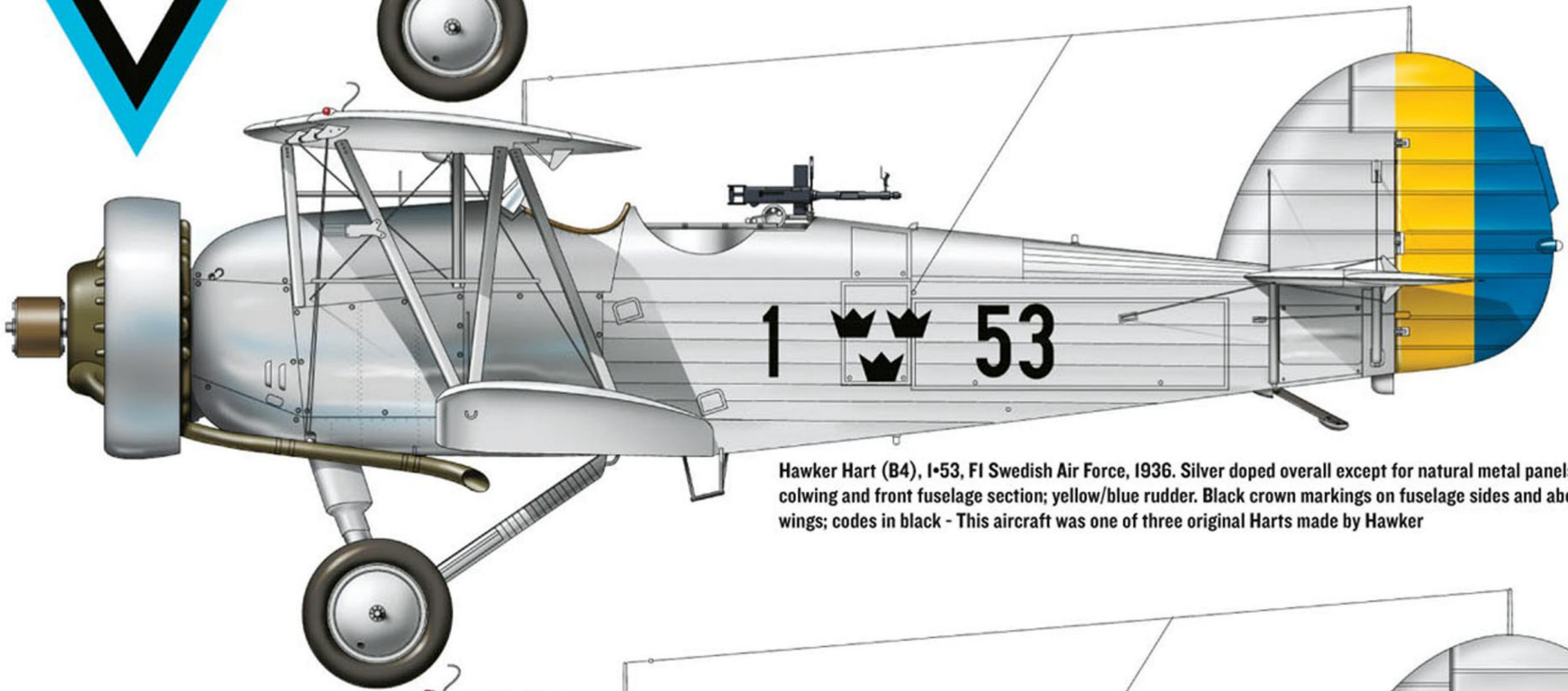
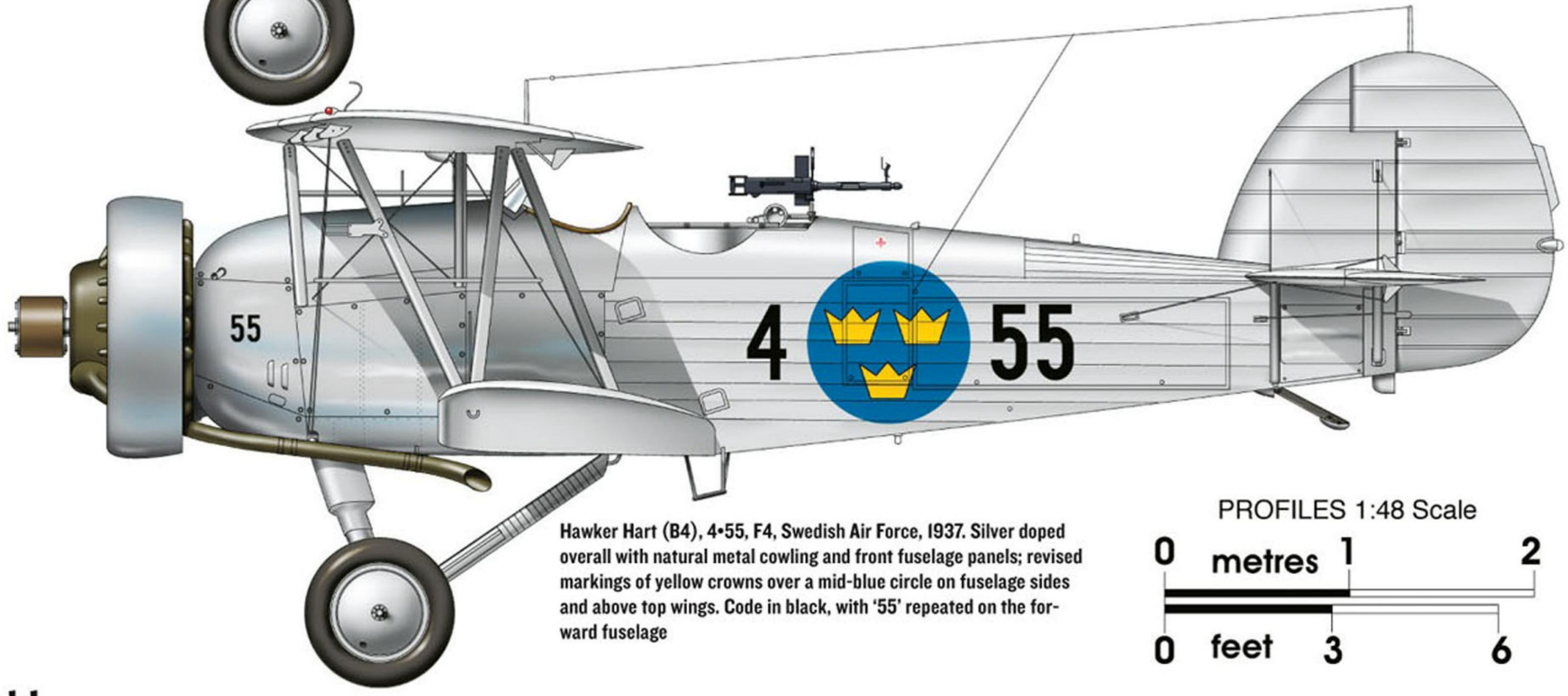



Hawker Hart, '146', Estonian Air Force. Silver dope overall with polished natural metal panels; triangular national markings in four wing positions. Serial '146' in black with light blue drop shadow; rudder in light blue, black and white




Hawker Hart (B4), 1•53, F1 Swedish Air Force, 1936. Silver doped overall except for natural metal panels of colwing and front fuselage section; yellow/blue rudder. Black crown markings on fuselage sides and above top wings; codes in black - This aircraft was one of three original Harts made by Hawker




Hawker Hart (B4), 4•55, F4, Swedish Air Force, 1937. Silver doped overall with natural metal cowling and front fuselage panels; revised markings of yellow crowns over a mid-blue circle on fuselage sides and above top wings. Code in black, with '55' repeated on the forward fuselage

PROFILES 1:48 Scale
0 metres 1 2
0 feet 3 6

Hawker Hart (B4A), 6/24, F6, Swedish Air Force, 1941. Dark Green uppersurfaces and Light Blue undersides; national markings on fuselage sides and above top wings. Code '6' in black while '24' is in white on tail and forward fuselage

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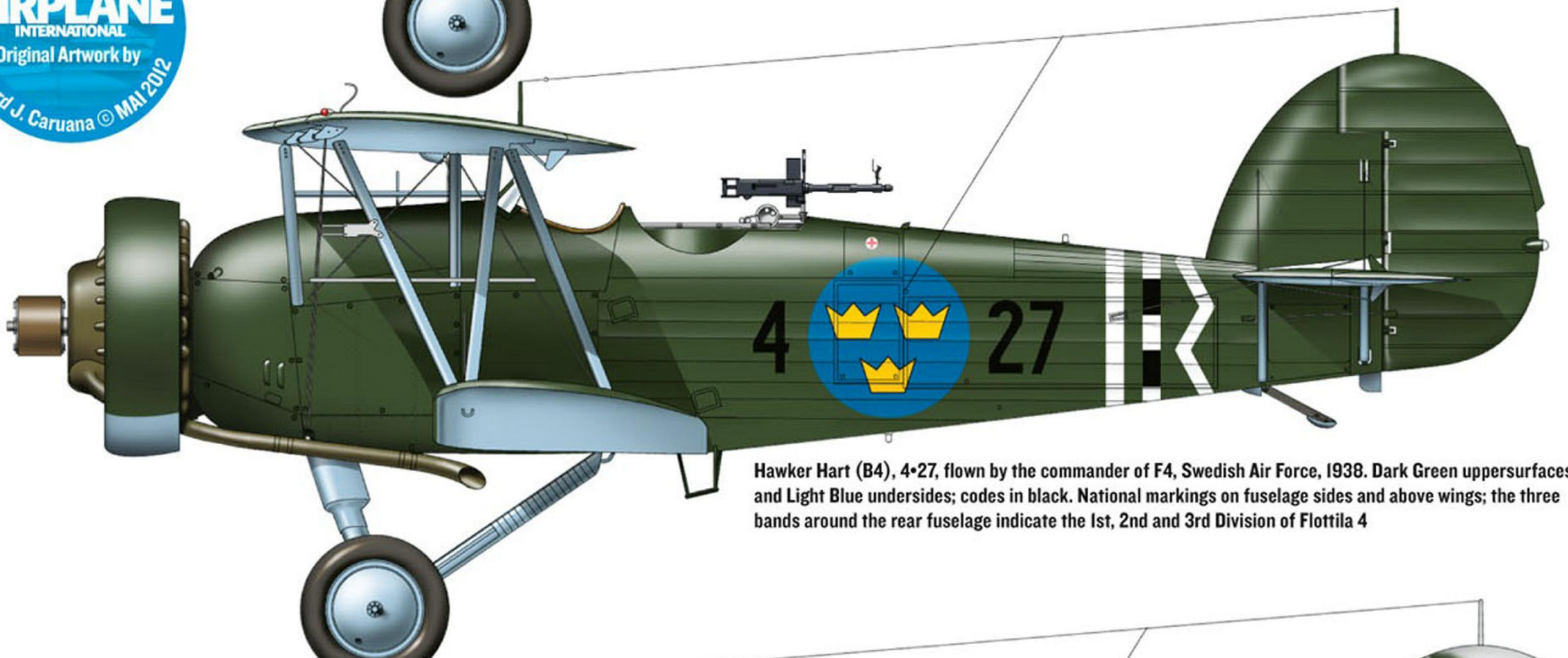
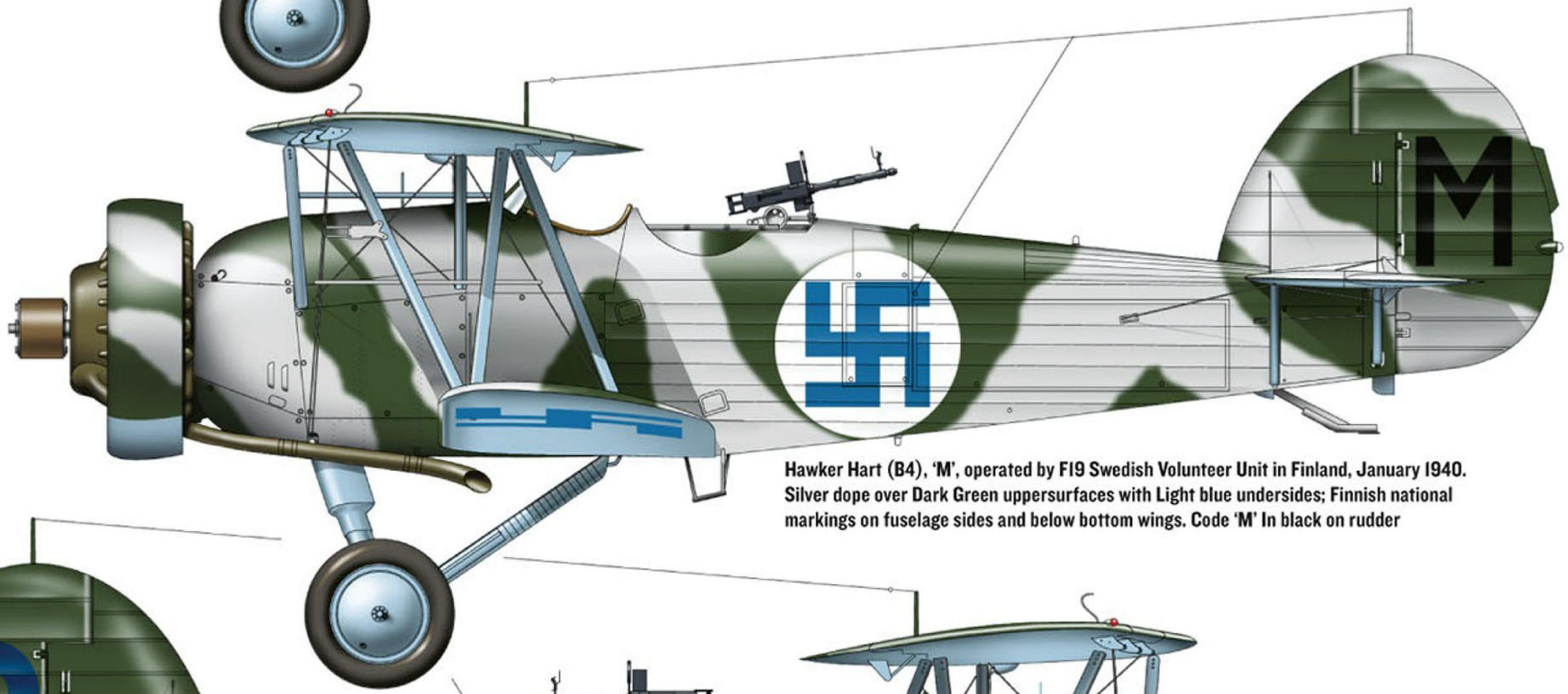
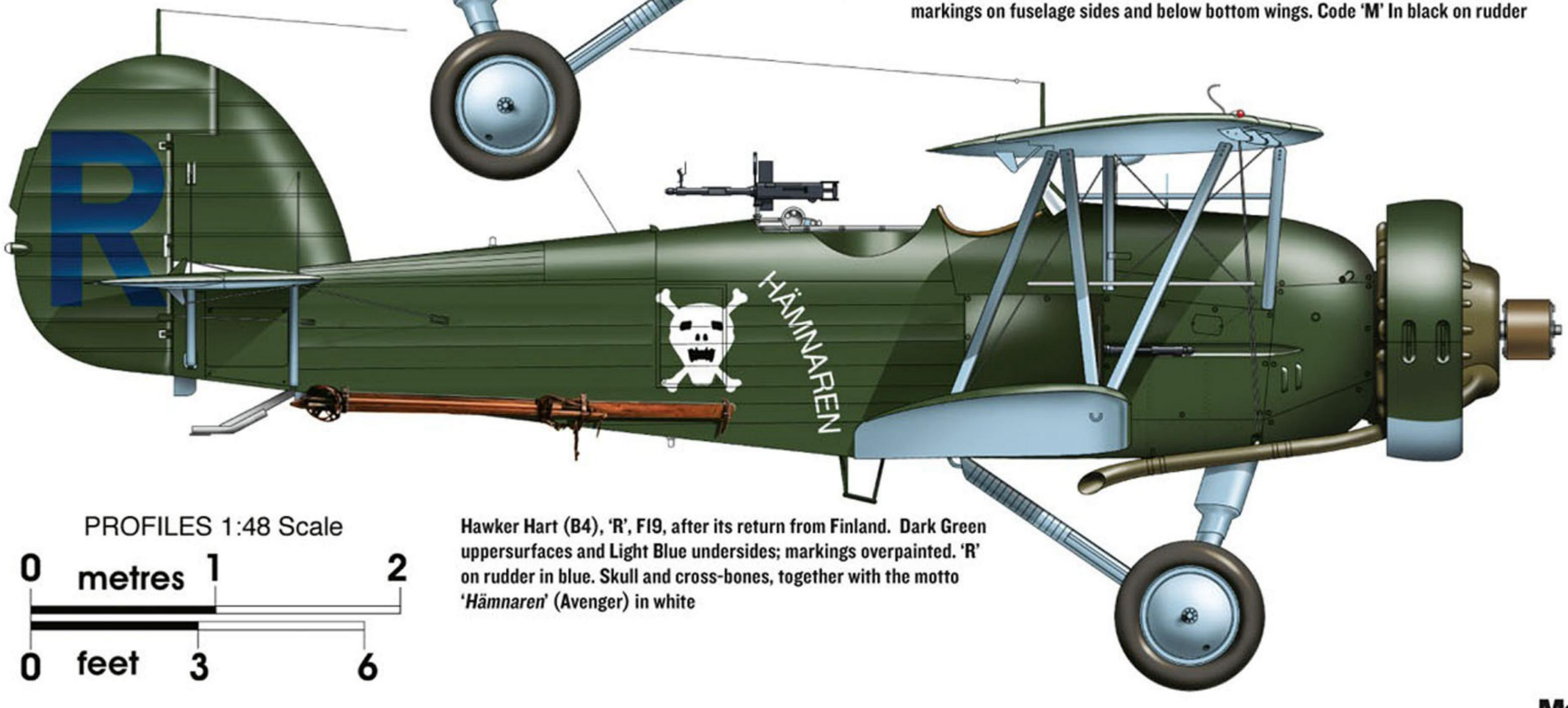



Hawker Hart (B4), 4•27, flown by the commander of F4, Swedish Air Force, 1938. Dark Green uppersurfaces and Light Blue undersides; codes in black. National markings on fuselage sides and above wings; the three bands around the rear fuselage indicate the 1st, 2nd and 3rd Division of Flottila 4




Hawker Hart (B4), 'M', operated by F19 Swedish Volunteer Unit in Finland, January 1940. Silver dope over Dark Green uppersurfaces with Light blue undersides; Finnish national markings on fuselage sides and below bottom wings. Code 'M' In black on rudder




Hawker Hart (B4), 'R', F19, after its return from Finland. Dark Green uppersurfaces and Light Blue undersides; markings overpainted. 'R' on rudder in blue. Skull and cross-bones, together with the motto '*Hämnaren*' (Avenger) in white

PROFILES 1:48 Scale

0 metres 1 2

0 feet 3 6



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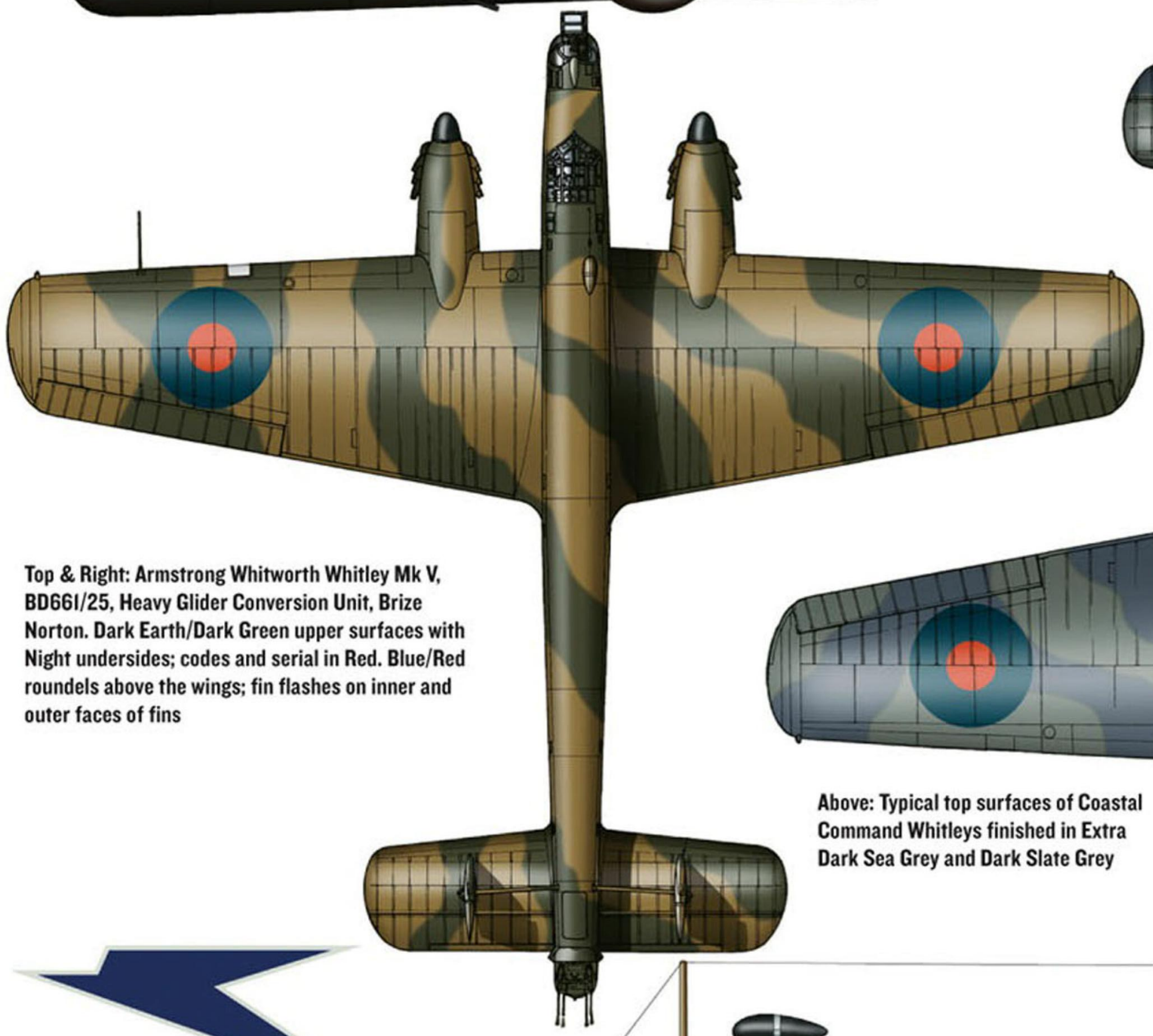
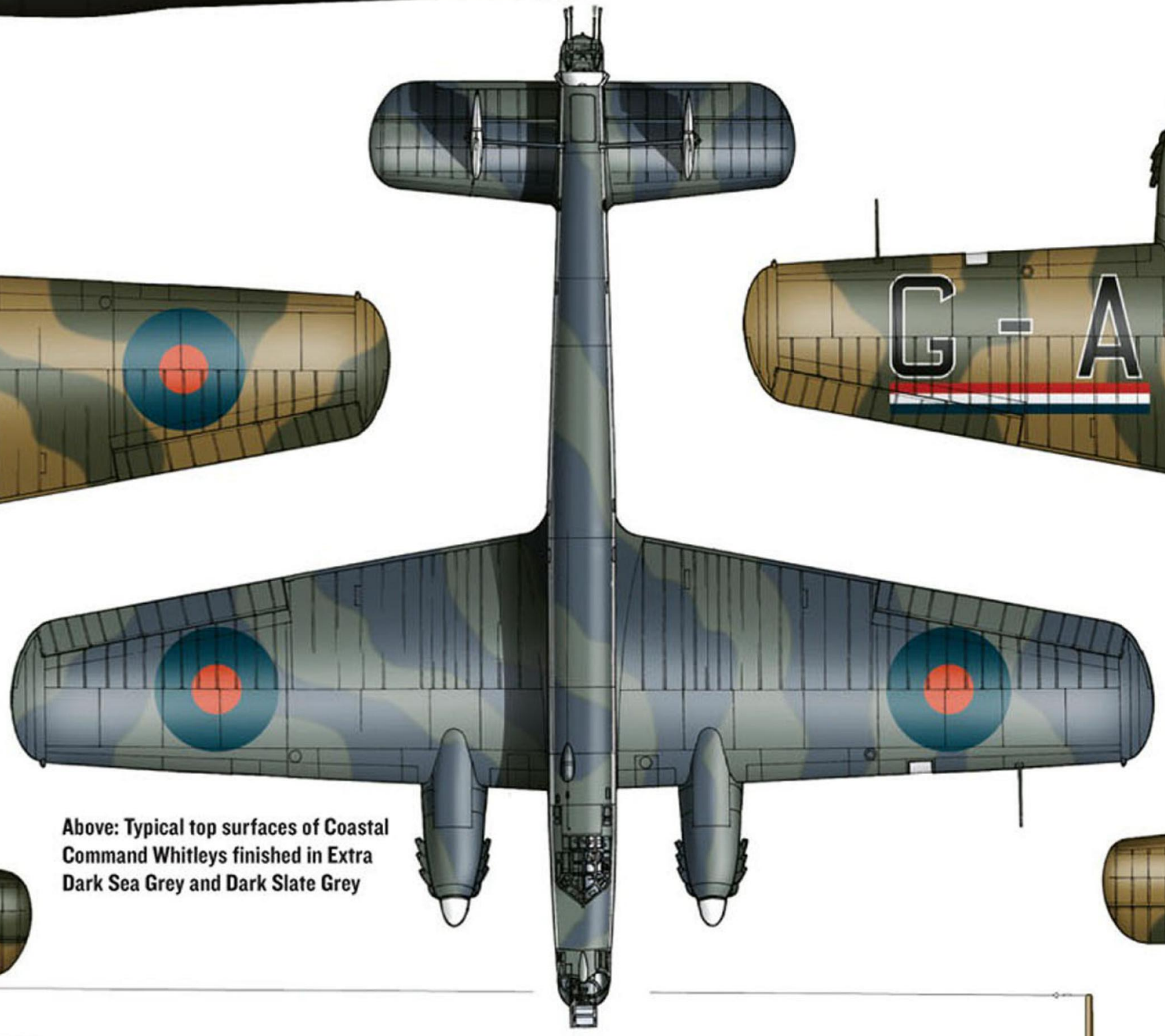
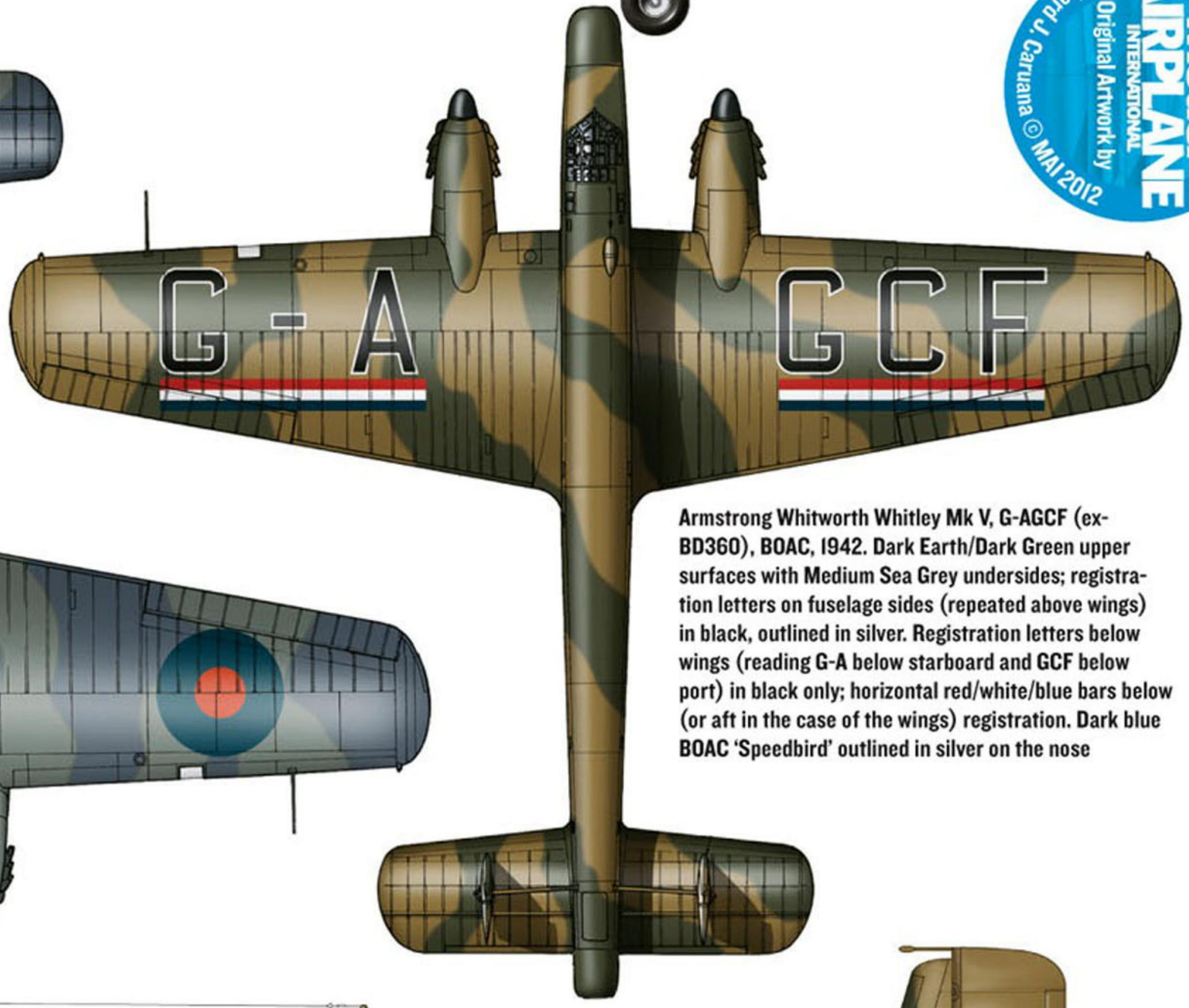
Original Artwork by Richard J. Caruana © MAI 2012



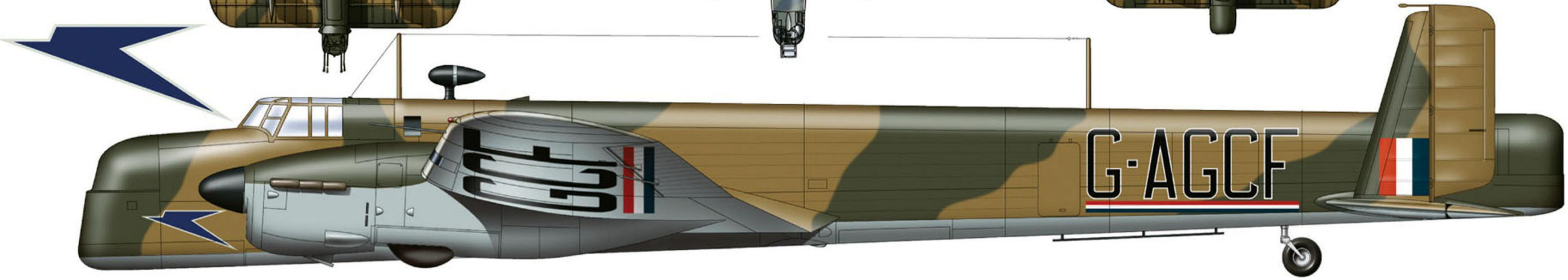





Top & Right: Armstrong Whitworth Whitley Mk V, BD661/25, Heavy Glider Conversion Unit, Brize Norton. Dark Earth/Dark Green upper surfaces with Night undersides; codes and serial in Red. Blue/Red roundels above the wings; fin flashes on inner and outer faces of fins

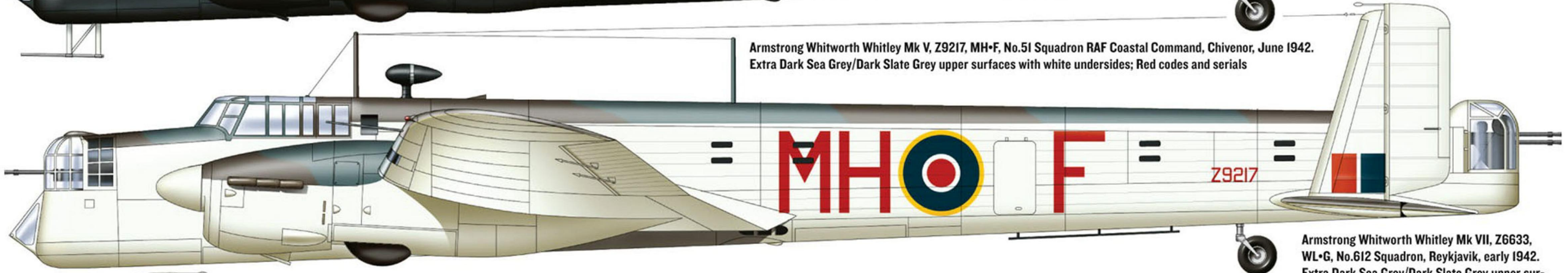
Above: Typical top surfaces of Coastal Command Whitleys finished in Extra Dark Sea Grey and Dark Slate Grey

Armstrong Whitworth Whitley Mk V, G-AGCF (ex-BD360), BOAC, 1942. Dark Earth/Dark Green upper surfaces with Medium Sea Grey undersides; registration letters on fuselage sides (repeated above wings) in black, outlined in silver. Registration letters below wings (reading G-A below starboard and GCF below port) in black only; horizontal red/white/blue bars below (or aft in the case of the wings) registration. Dark blue BOAC 'Speedbird' outlined in silver on the nose

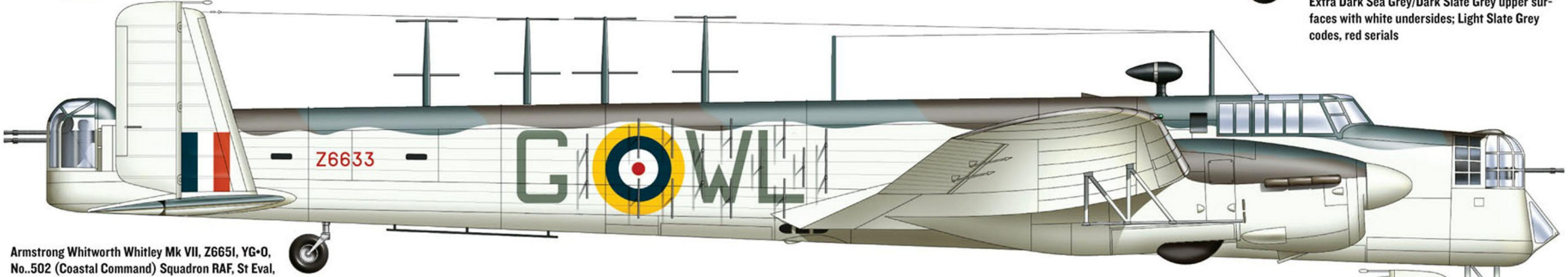


Armstrong Whitworth Whitley Mk VII, BD662, WL•U, No.612 Squadron, Coastal Command, 1942. Dark Green/Dark Earth upper surfaces with Night Undersides; Medium Sea Grey codes, Dull Red serials

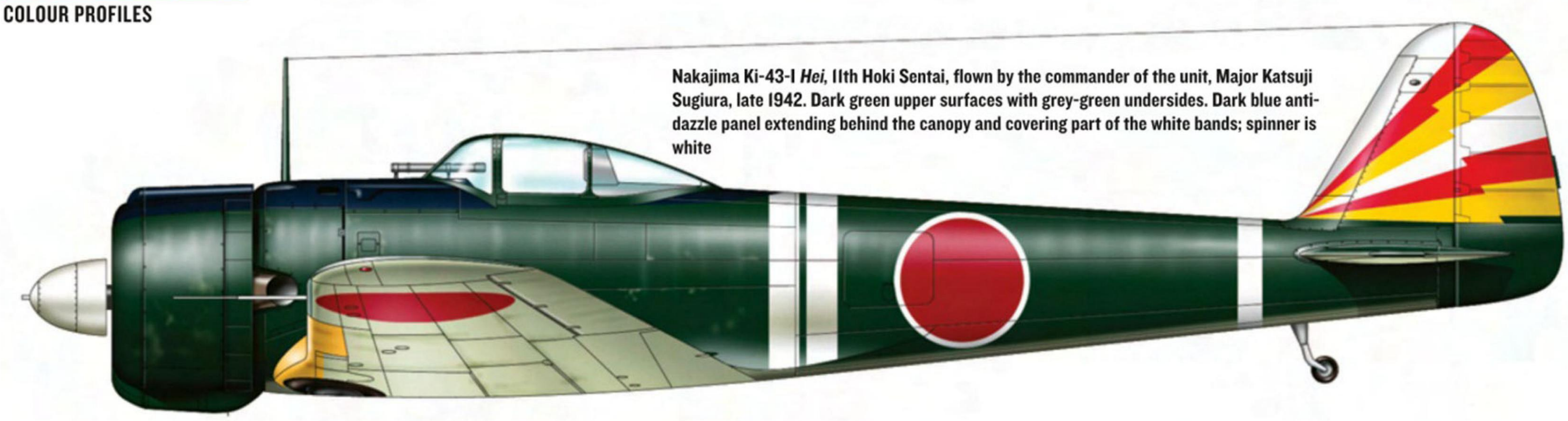
Armstrong Whitworth Whitley Mk V, Z9217, MH•F, No.51 Squadron RAF Coastal Command, Chivenor, June 1942. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with white undersides; Red codes and serials



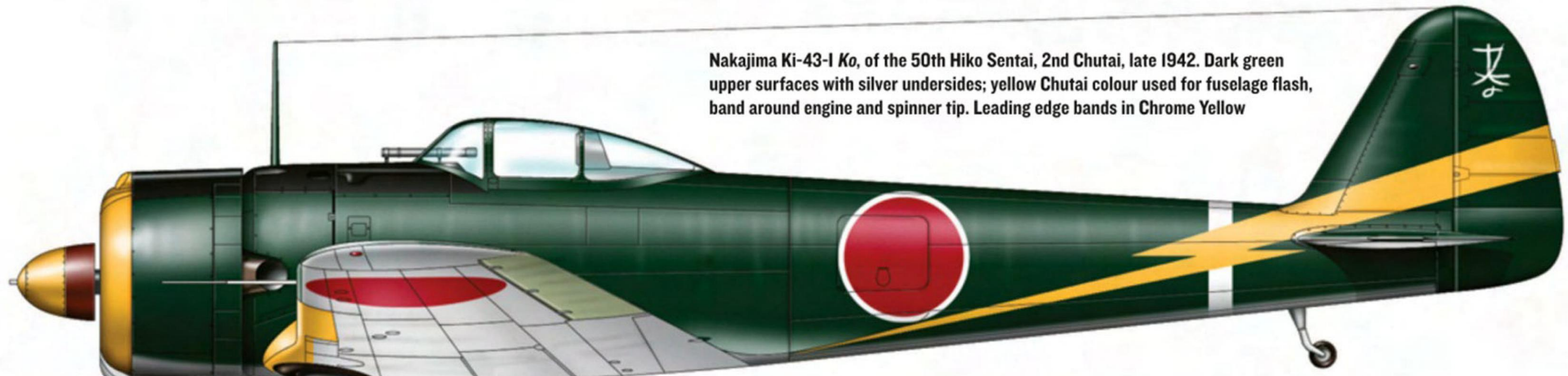

Armstrong Whitworth Whitley Mk VII, Z6633, WL•G, No.612 Squadron, Reykjavik, early 1942. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with white undersides; Light Slate Grey codes, red serials



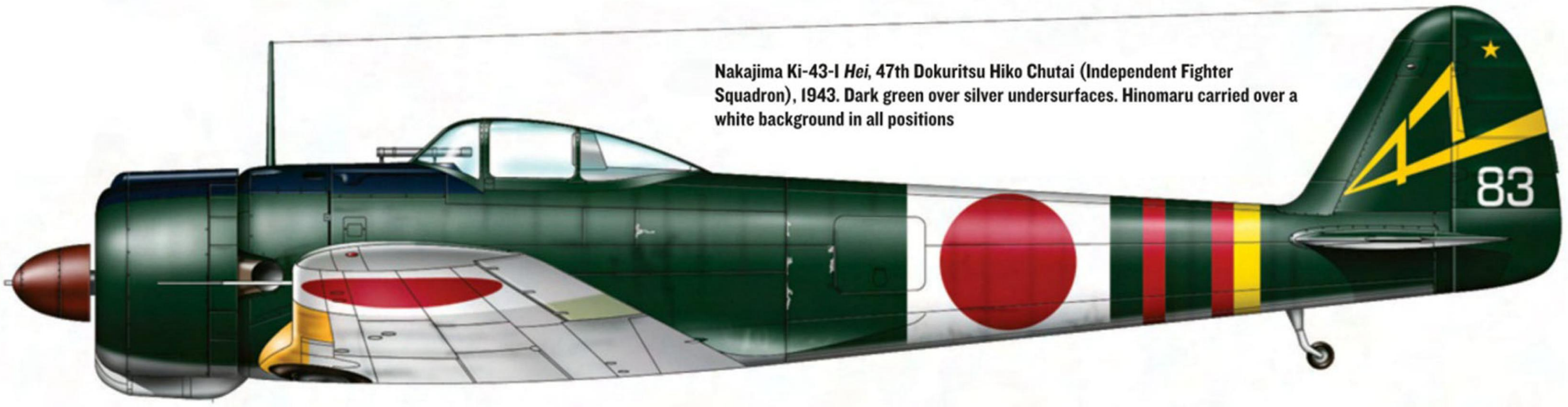

Armstrong Whitworth Whitley Mk VII, Z6651, YG•O, No..502 (Coastal Command) Squadron RAF, St Eval, 1942. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with white undersides; codes in Light Slate Grey, red serials



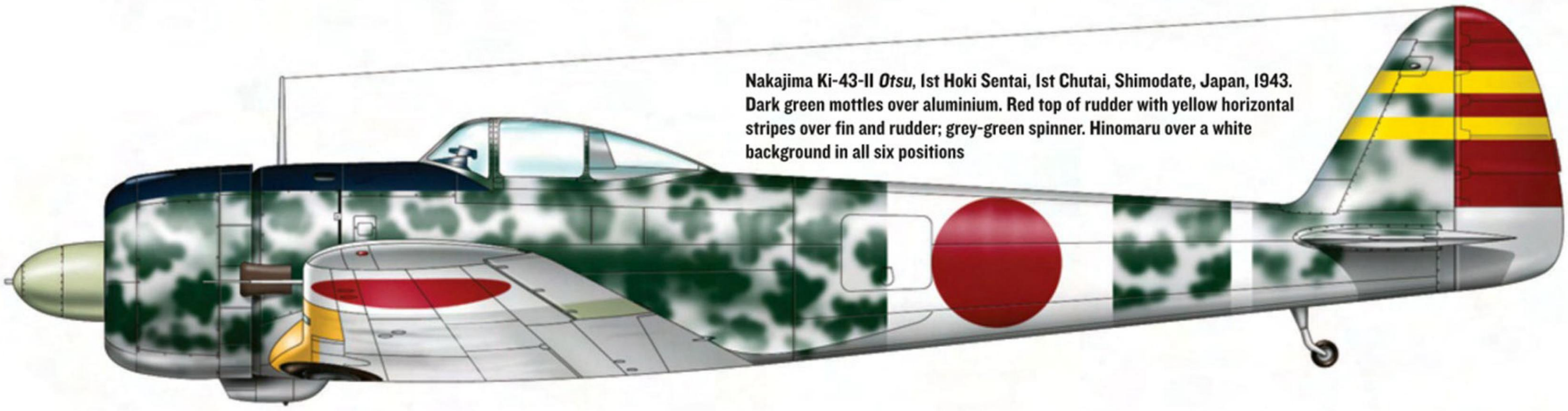
Nakajima Ki-43-I *Hei*, 11th Hoki Sentai, flown by the commander of the unit, Major Katsuji Sugiura, late 1942. Dark green upper surfaces with grey-green undersides. Dark blue anti-dazzle panel extending behind the canopy and covering part of the white bands; spinner is white



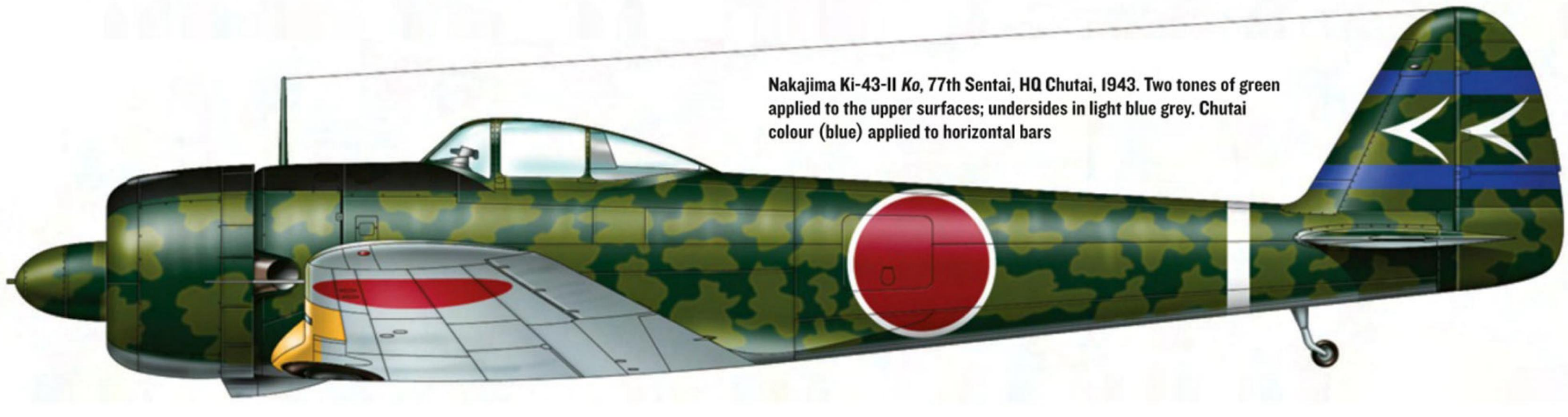
Nakajima Ki-43-I *Ko*, of the 50th Hiko Sentai, 2nd Chutai, late 1942. Dark green upper surfaces with silver undersides; yellow Chutai colour used for fuselage flash, band around engine and spinner tip. Leading edge bands in Chrome Yellow




Nakajima Ki-43-I *Hei*, 47th Dokuritsu Hiko Chutai (Independent Fighter Squadron), 1943. Dark green over silver undersurfaces. Hinomaru carried over a white background in all positions



Nakajima Ki-43-II *Otsu*, 1st Hoki Sentai, 1st Chutai, Shimodate, Japan, 1943. Dark green mottles over aluminium. Red top of rudder with yellow horizontal stripes over fin and rudder; grey-green spinner. Hinomaru over a white background in all six positions



Nakajima Ki-43-II *Ko*, 77th Sentai, HQ Chutai, 1943. Two tones of green applied to the upper surfaces; undersides in light blue grey. Chutai colour (blue) applied to horizontal bars



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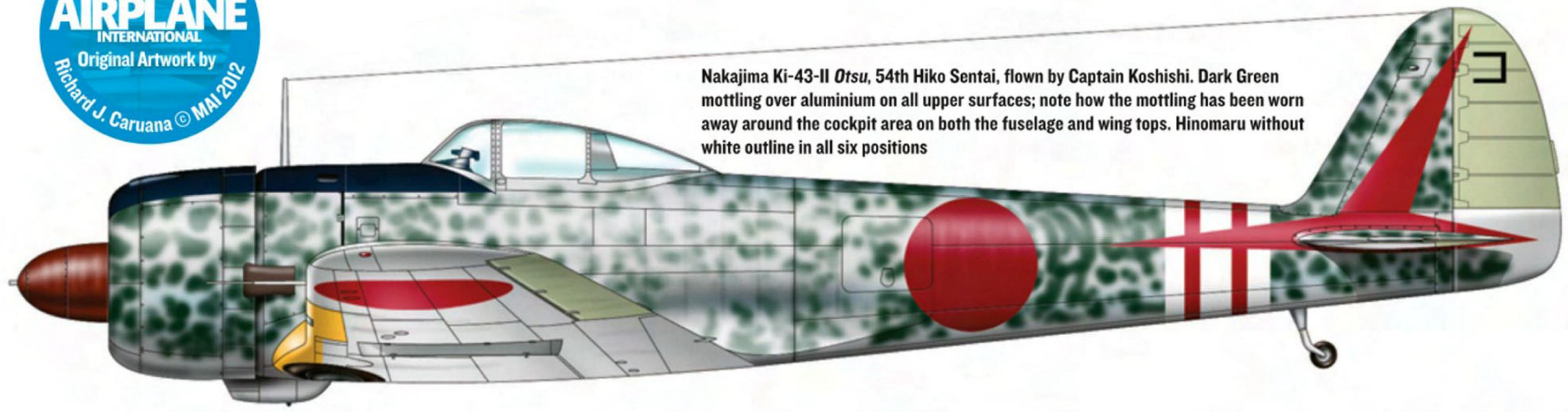
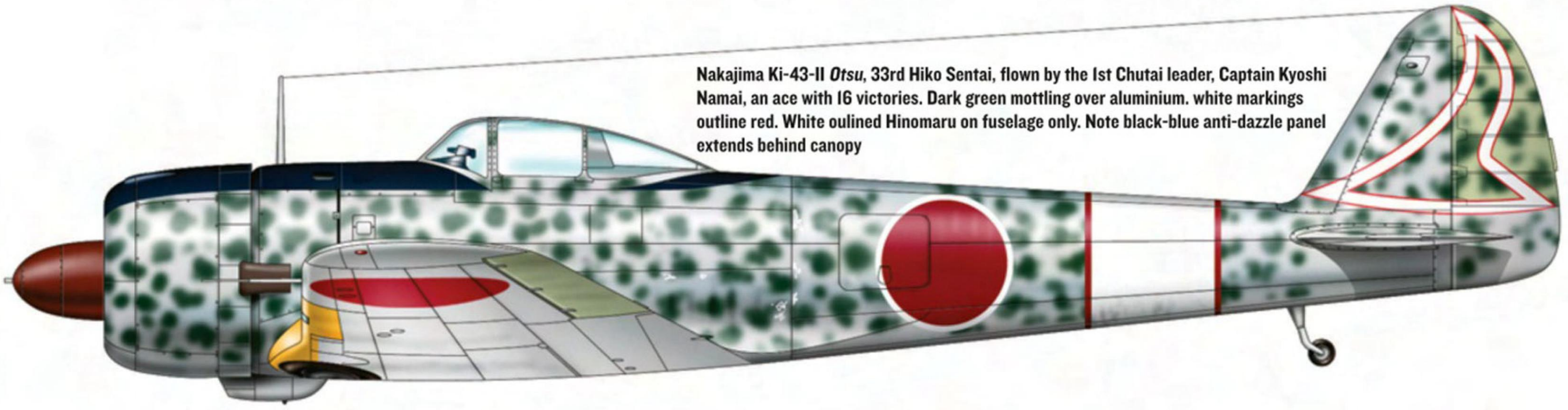
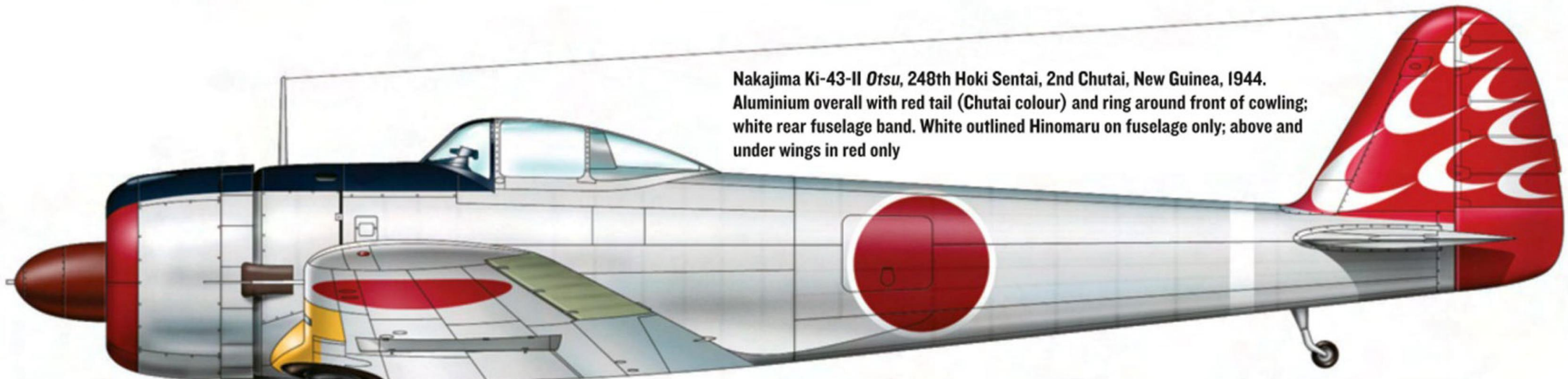
Nakajima Ki-43-II *Otsu*, 54th Hiko Sentai, flown by Captain Koshishi. Dark Green mottling over aluminium on all upper surfaces; note how the mottling has been worn away around the cockpit area on both the fuselage and wing tops. Hinomaru without white outline in all six positions



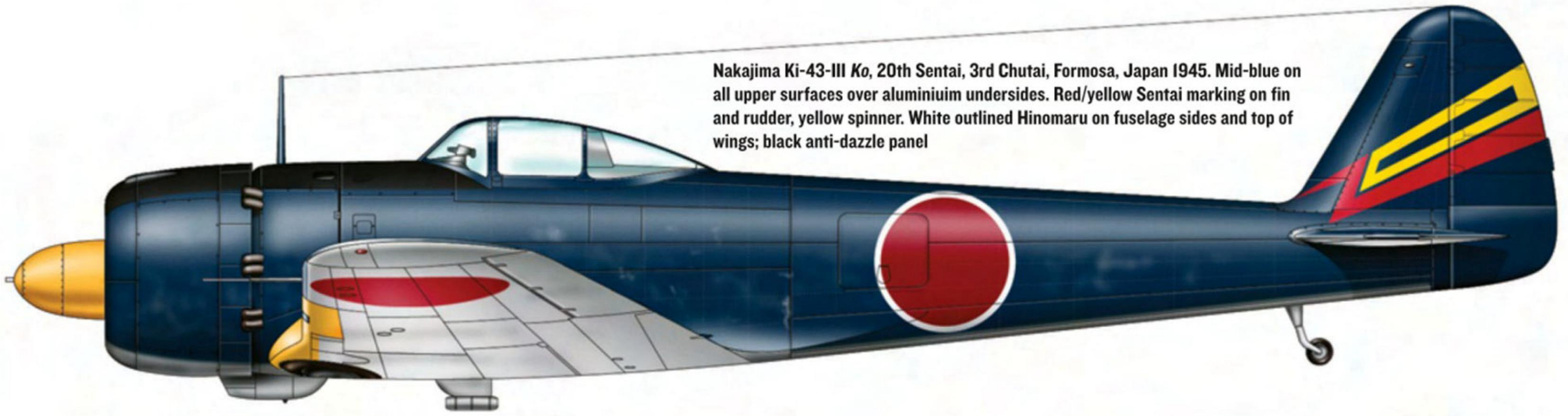
Nakajima Ki-43-II *Otsu*, 33rd Hiko Sentai, flown by the 1st Chutai leader, Captain Kyoshi Namai, an ace with 16 victories. Dark green mottling over aluminium. white markings outline red. White oulined Hinomaru on fuselage only. Note black-blue anti-dazzle panel extends behind canopy



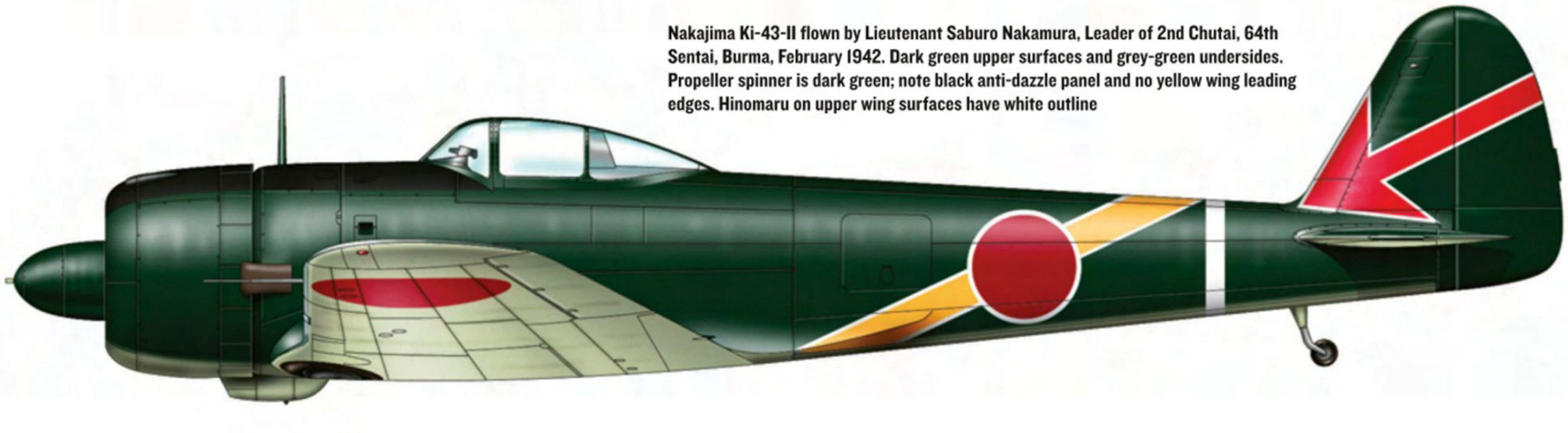
Nakajima Ki-43-II *Otsu*, 248th Hoki Sentai, 2nd Chutai, New Guinea, 1944. Aluminium overall with red tail (Chutai colour) and ring around front of cowling; white rear fuselage band. White outlined Hinomaru on fuselage only; above and under wings in red only



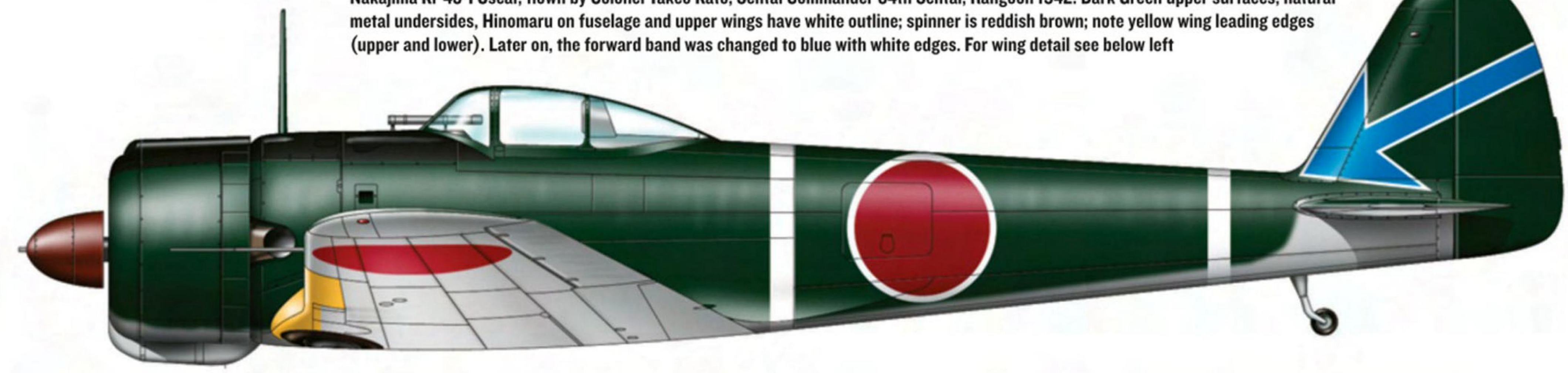
Nakajima Ki-43-III *Ko*, 20th Sentai, 3rd Chutai, Formosa, Japan 1945. Mid-blue on all upper surfaces over aluminiuim undersides. Red/yellow Sentai marking on fin and rudder, yellow spinner. White outlined Hinomaru on fuselage sides and top of wings; black anti-dazzle panel



Nakajima Ki-43-II flown by Lieutenant Saburo Nakamura, Leader of 2nd Chutai, 64th Sentai, Burma, February 1942. Dark green upper surfaces and grey-green undersides. Propeller spinner is dark green; note black anti-dazzle panel and no yellow wing leading edges. Hinomaru on upper wing surfaces have white outline



Nakajima Ki-43-I Oscar, flown by Colonel Takeo Kato, Sentai Commander 64th Sentai, Rangoon 1942. Dark Green upper surfaces, natural metal undersides, Hinomaru on fuselage and upper wings have white outline; spinner is reddish brown; note yellow wing leading edges (upper and lower). Later on, the forward band was changed to blue with white edges. For wing detail see below left



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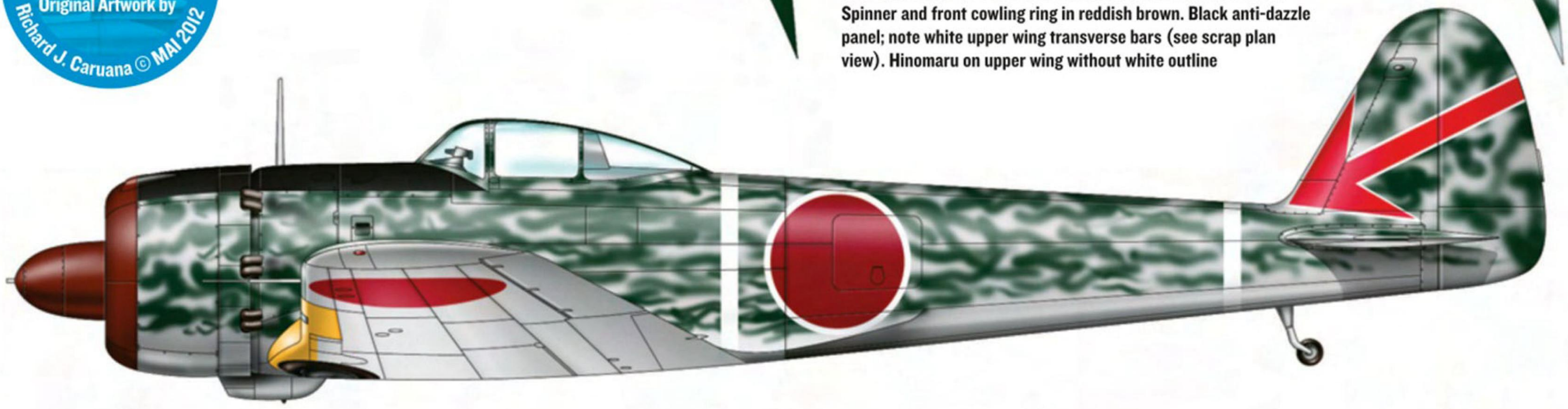
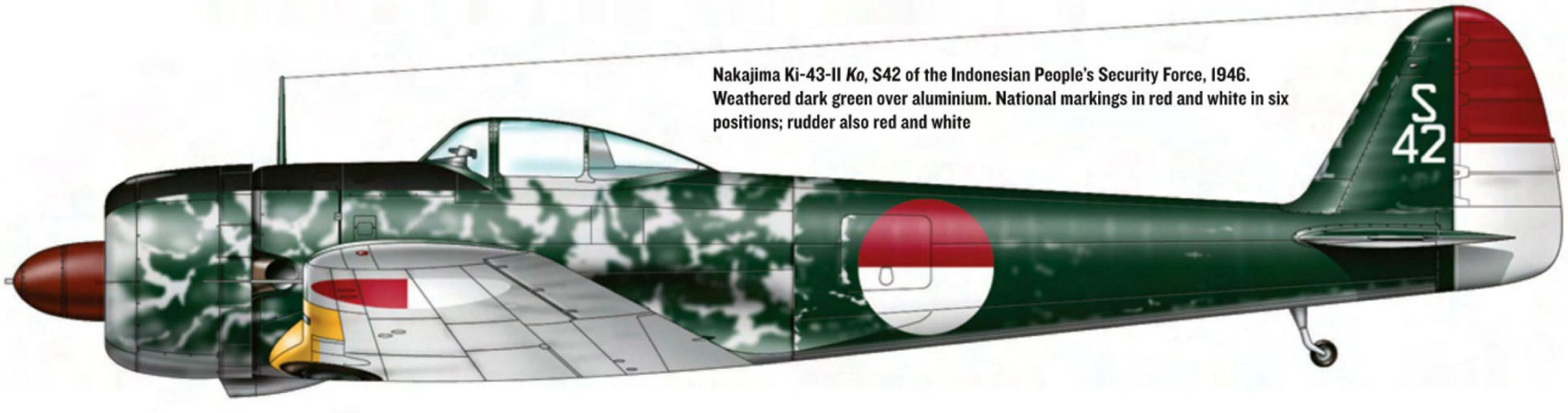
Nakajima Ki-43-III, lead aircraft of 2nd Chutai, 64th Fighter Sentai, 1944. Natural metal overall with mottles in Dark Green. Spinner and front cowling ring in reddish brown. Black anti-dazzle panel; note white upper wing transverse bars (see scrap plan view). Hinomaru on upper wing without white outline



Nakajima Ki-43-I Hayabusa of the HQ Chutai, 64th Sentai, Northern Thailand, March 1942. Dark Green and Dark Brown applied over the natural metal overall finish. Reddish brown spinner; no Hinomaru on fuselage while those on the upper surfaces are believed to have been without a white outline. Note: arrow markings is carried on the wings as in scrap view above left

Nakajima Ki-43-II *Ko*, S42 of the Indonesian People's Security Force, 1946. Weathered dark green over aluminium. National markings in red and white in six positions; rudder also red and white





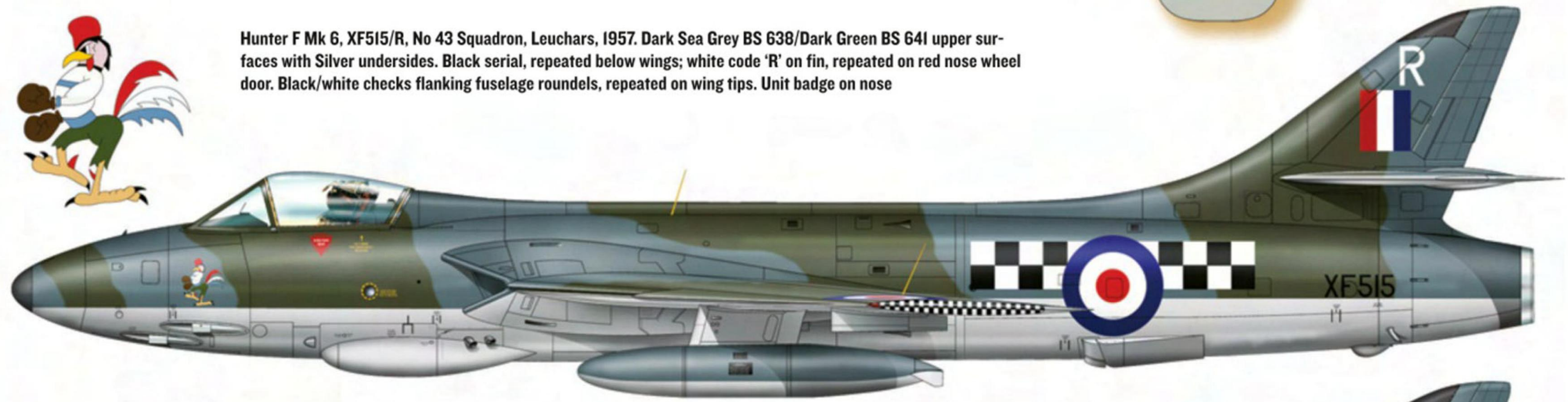
Model AIRPLANE INTERNATIONAL

# HAWKER Hunter Part Two

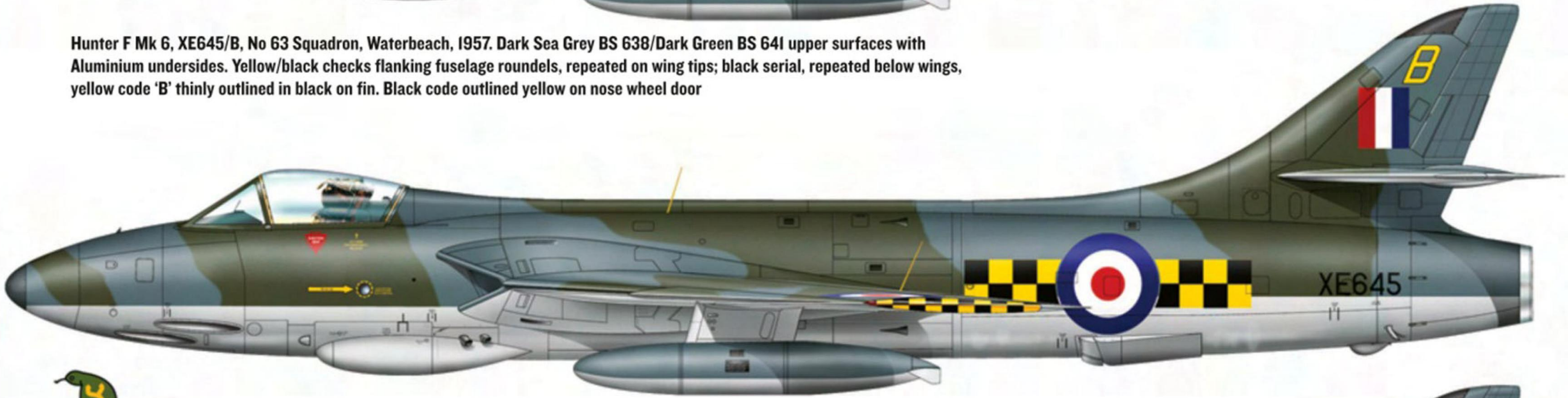
**Hawker Hunter Production F Mk 6**

**XF833. WW592-598, XE526-561, XE579-628, XE643-656, XF373-389, XF414-463, XF495-527, XG127-137, XG150-168, XG169-172, XG185-211, XG251-275, XG225-239, XG289-298, XJ632-646, XJ712-718, XK136-176, XK213-224**

Hunter F Mk 6, XF515/R, No 43 Squadron, Leuchars, 1957. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Silver undersides. Black serial, repeated below wings; white code 'R' on fin, repeated on red nose wheel door. Black/white checks flanking fuselage roundels, repeated on wing tips. Unit badge on nose

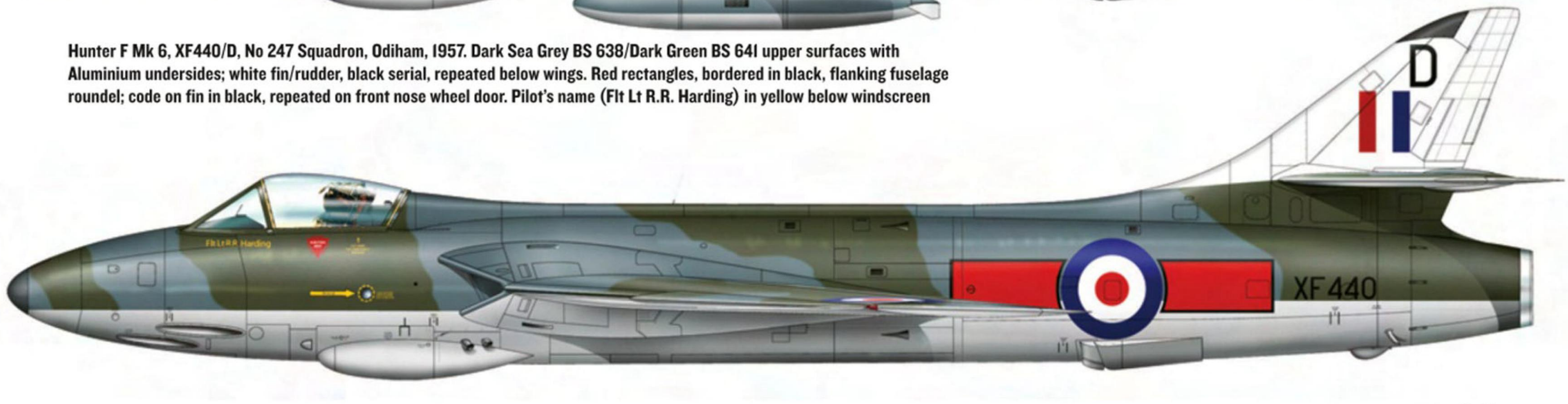



Hunter F Mk 6, XE645/B, No 63 Squadron, Waterbeach, 1957. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Yellow/black checks flanking fuselage roundels, repeated on wing tips; black serial, repeated below wings, yellow code 'B' thinly outlined in black on fin. Black code outlined yellow on nose wheel door



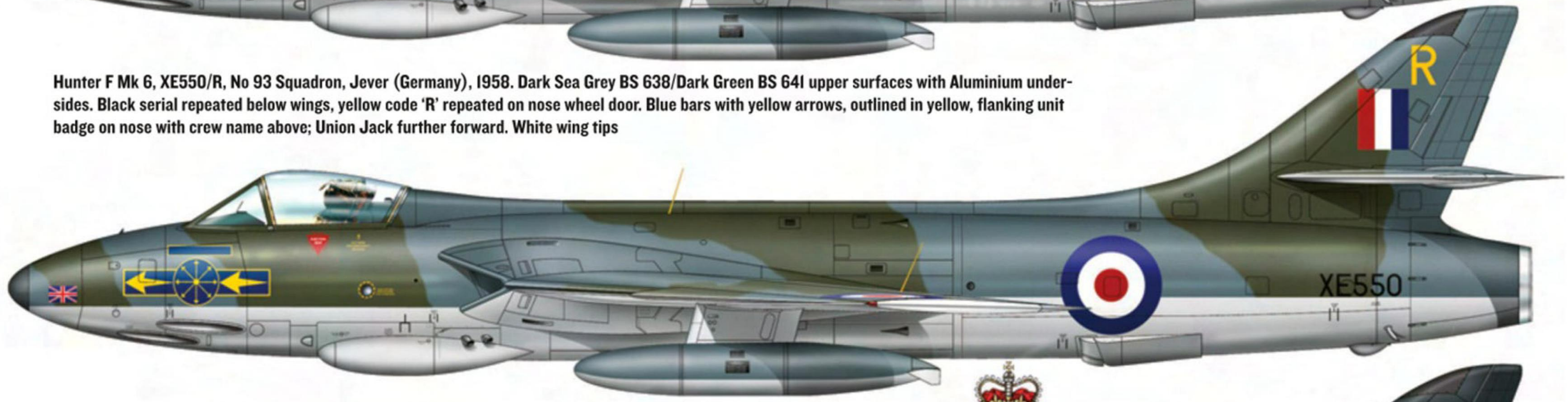

Hunter F Mk 6, XG225/B, No 92 Squadron, 1957. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial repeated below wings, yellow code 'B' on fin, repeated in black on nose wheel door. Yellow/red checks flanking unit badge on nose

Hunter F Mk 6, XF440/D, No 247 Squadron, Odiham, 1957. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides; white fin/rudder, black serial, repeated below wings. Red rectangles, bordered in black, flanking fuselage roundel; code on fin in black, repeated on front nose wheel door. Pilot's name (Flt Lt R.R. Harding) in yellow below windscreen

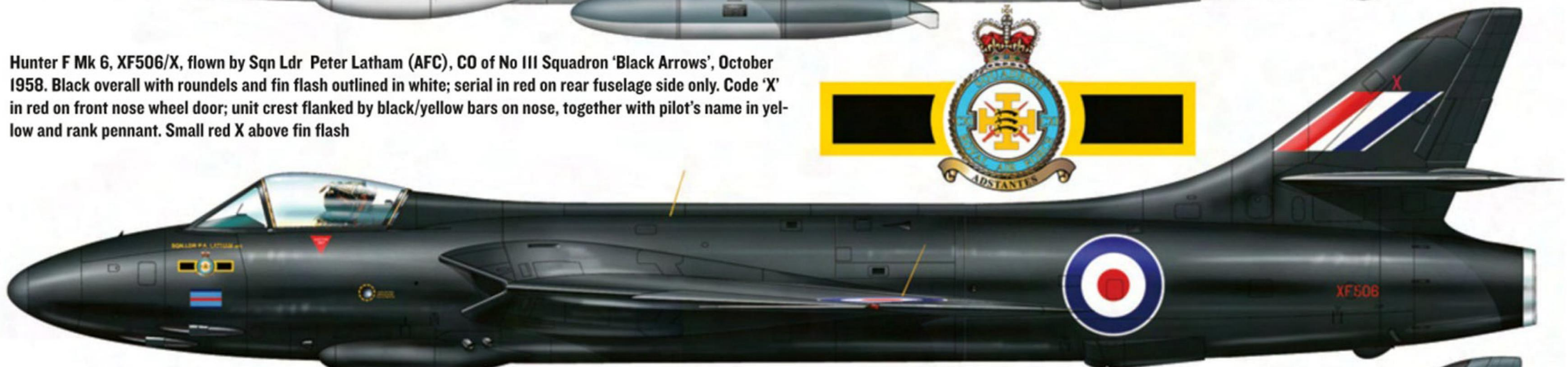


Hunter F Mk 6, XE597, flown by the C.O. of No 63 Squadron, Waterbeach, 1958. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Yellow/black checks on fin and fixed areas of horizontal tail surfaces; serial in black, repeated below wings. White wing tips.

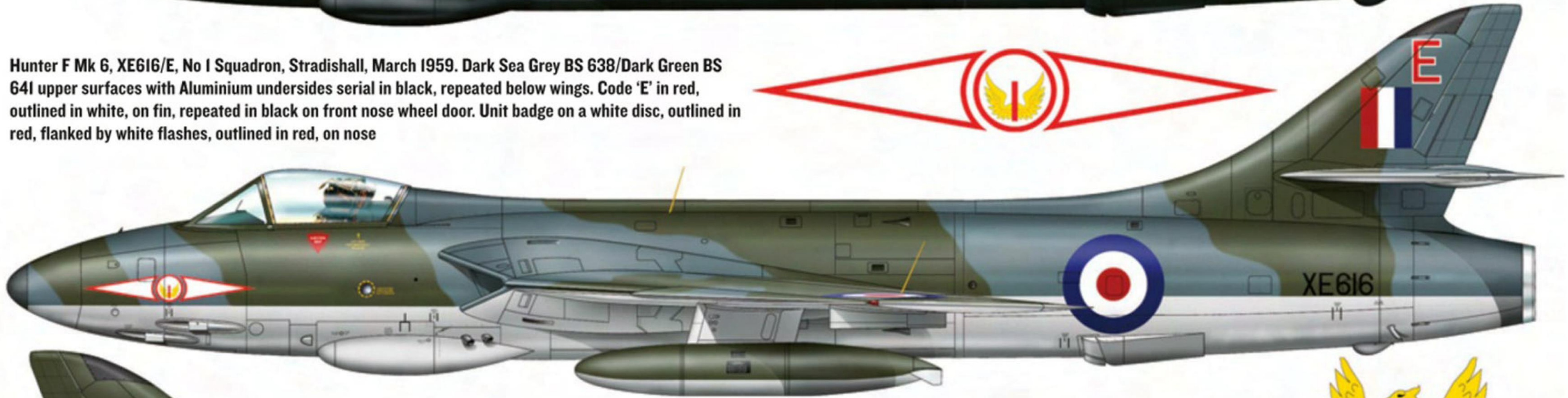
Hunter F Mk 6, XE550/R, No 93 Squadron, Jever (Germany), 1958. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial repeated below wings, yellow code 'R' repeated on nose wheel door. Blue bars with yellow arrows, outlined in yellow, flanking unit badge on nose with crew name above; Union Jack further forward. White wing tips



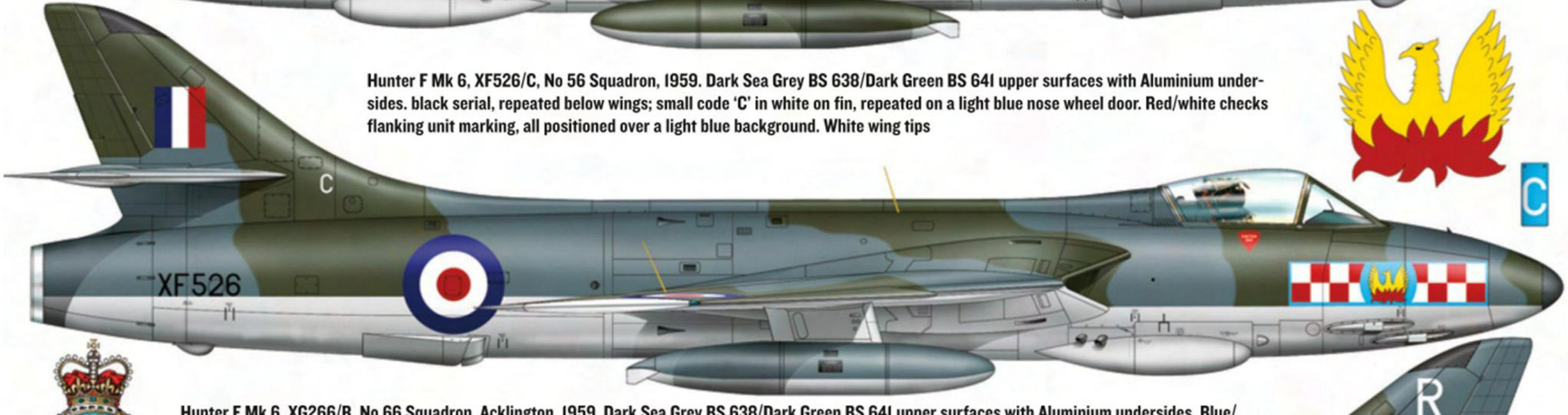

Hunter F Mk 6, XF506/X, flown by Sqn Ldr Peter Latham (AFC), CO of No 111 Squadron 'Black Arrows', October 1958. Black overall with roundels and fin flash outlined in white; serial in red on rear fuselage side only. Code 'X' in red on front nose wheel door; unit crest flanked by black/yellow bars on nose, together with pilot's name in yellow and rank pennant. Small red X above fin flash




Hunter F Mk 6, XE616/E, No 1 Squadron, Stradishall, March 1959. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides serial in black, repeated below wings. Code 'E' in red, outlined in white, on fin, repeated in black on front nose wheel door. Unit badge on a white disc, outlined in red, flanked by white flashes, outlined in red, on nose




Hunter F Mk 6, XF526/C, No 56 Squadron, 1959. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. black serial, repeated below wings; small code 'C' in white on fin, repeated on a light blue nose wheel door. Red/white checks flanking unit marking, all positioned over a light blue background. White wing tips




Hunter F Mk 6, XG266/R, No 66 Squadron, Acklington, 1959. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Blue/white arrow fuselage roundel markings; black serial repeated below wings, white code repeated in blue on white nose wheel door. White wing tips; unit crest over a white disc on nose

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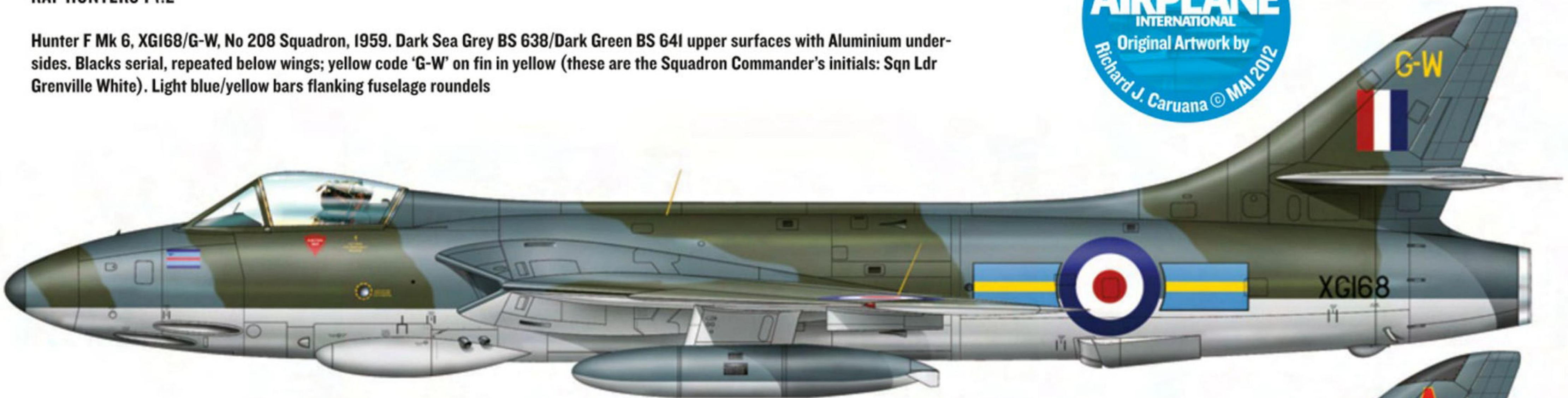
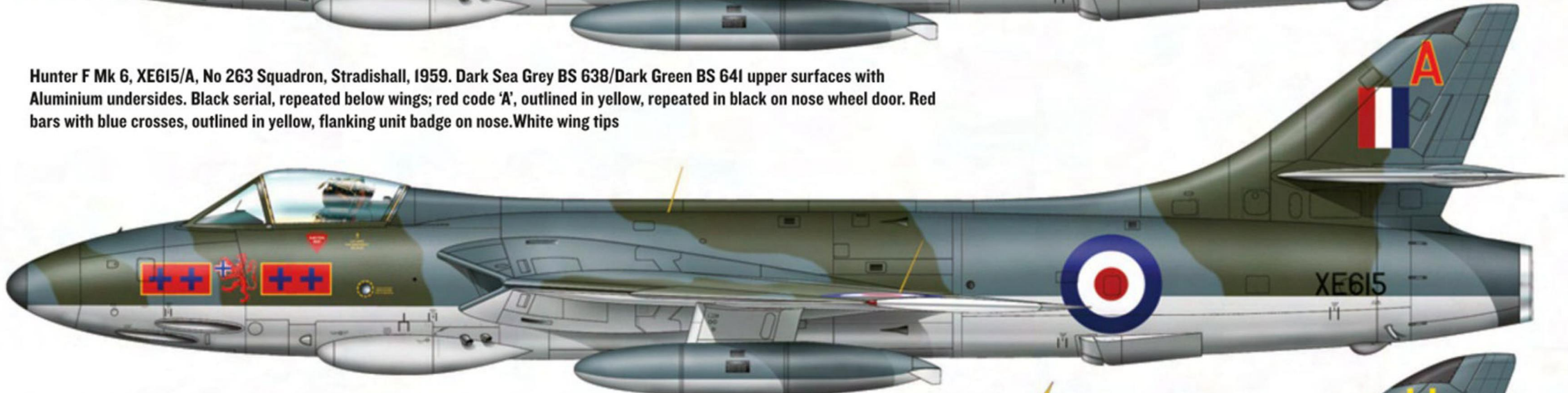
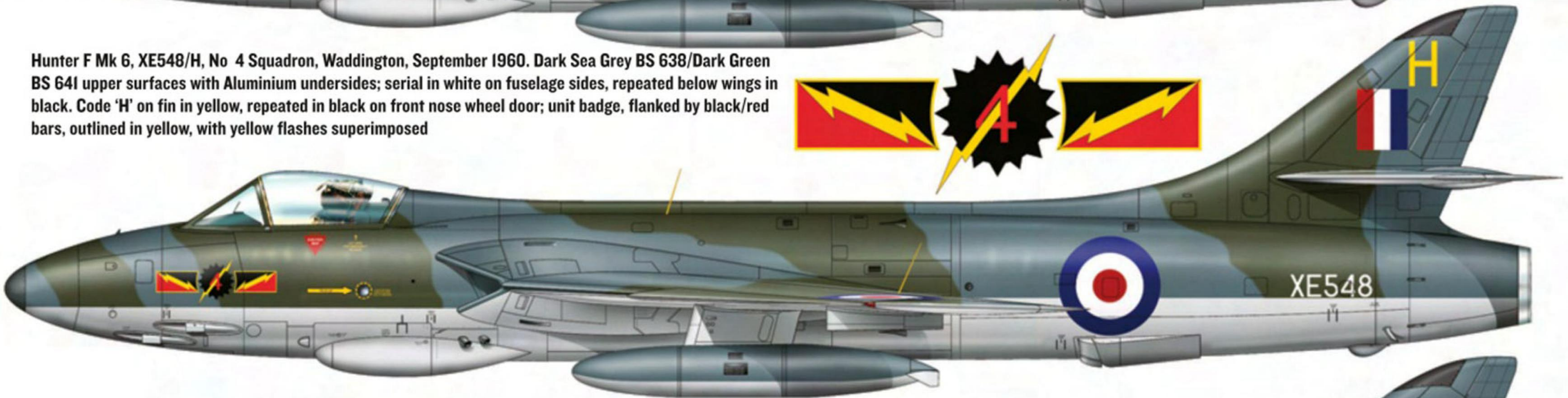
Hunter F Mk 6, XG168/G-W, No 208 Squadron, 1959. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Blacks serial, repeated below wings; yellow code 'G-W' on fin in yellow (these are the Squadron Commander's initials: Sqn Ldr Grenville White). Light blue/yellow bars flanking fuselage roundels



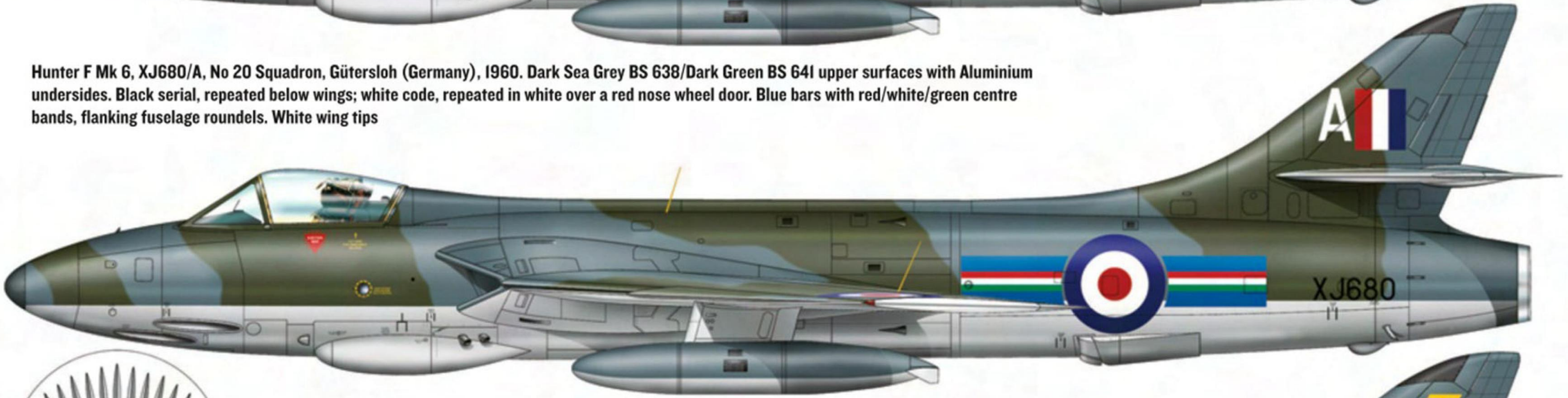

Hunter F Mk 6, XE615/A, No 263 Squadron, Stradishall, 1959. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial, repeated below wings; red code 'A', outlined in yellow, repeated in black on nose wheel door. Red bars with blue crosses, outlined in yellow, flanking unit badge on nose.White wing tips




Hunter F Mk 6, XE548/H, No 4 Squadron, Waddington, September 1960. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides; serial in white on fuselage sides, repeated below wings in black. Code 'H' on fin in yellow, repeated in black on front nose wheel door; unit badge, flanked by black/red bars, outlined in yellow, with yellow flashes superimposed

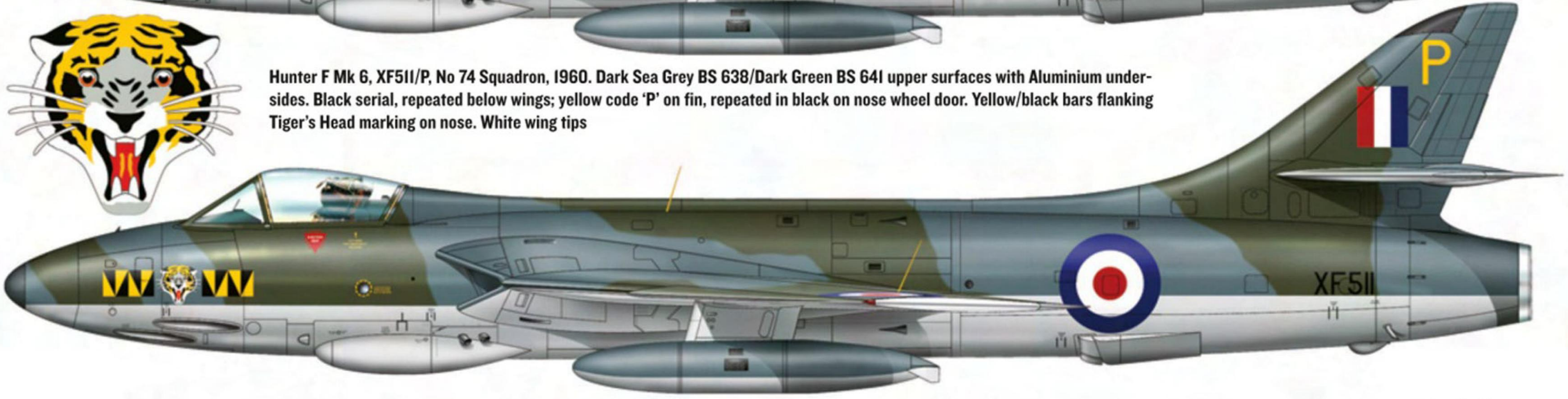



Hunter F Mk 6, XJ680/A, No 20 Squadron, Gütersloh (Germany), 1960. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial, repeated below wings; white code, repeated in white over a red nose wheel door. Blue bars with red/white/green centre bands, flanking fuselage roundels. White wing tips




Hunter F Mk 6, XE627/T, No 65 Squadron, Duxford, 1960. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial, repeated below wings; yellow code 'M' on fin, repeated in white, outlined in red, on nose wheel door. Red/white bars flanking unit badge on nose; white wing tips

Hunter F Mk 6, XF511/P, No 74 Squadron, 1960. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Black serial, repeated below wings; yellow code 'P' on fin, repeated in black on nose wheel door. Yellow/black bars flanking Tiger's Head marking on nose. White wing tips



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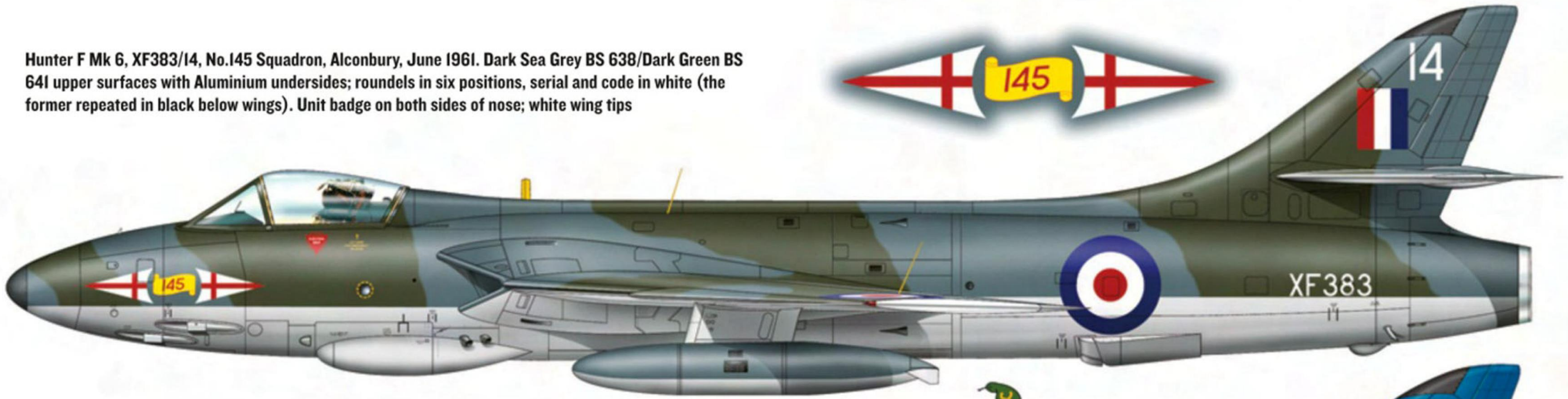
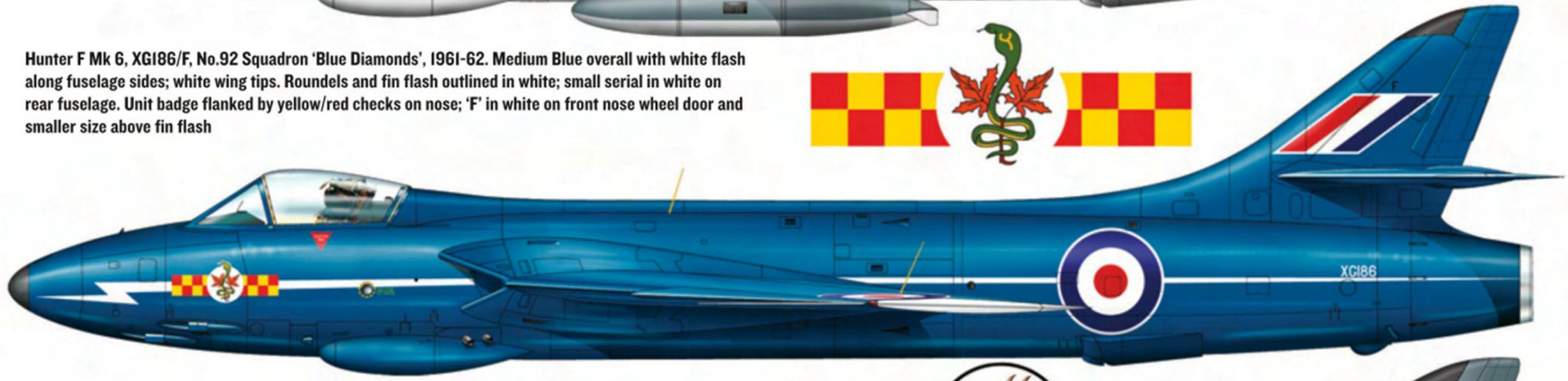
Hunter F Mk 6, XF383/14, No.145 Squadron, Alconbury, June 1961. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides; roundels in six positions, serial and code in white (the former repeated in black below wings). Unit badge on both sides of nose; white wing tips

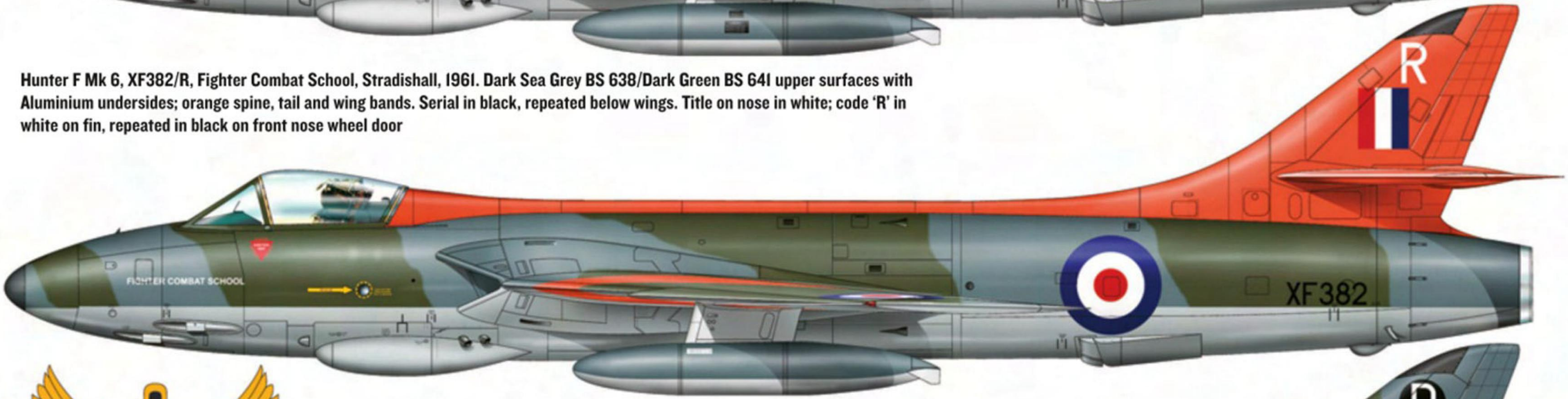



Hunter F Mk 6, XG186/F, No.92 Squadron 'Blue Diamonds', 1961-62. Medium Blue overall with white flash along fuselage sides; white wing tips. Roundels and fin flash outlined in white; small serial in white on rear fuselage. Unit badge flanked by yellow/red checks on nose; 'F' in white on front nose wheel door and smaller size above fin flash




Hunter F Mk 6, XE530/A, flown by the CO of No.26 Squadron, Gütersloh, Germany , 1961. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides/ Serial in black, repeated below wings; code on fin in yellow thinly outlined in black, repeated on nose wheel door. Black bars, outlined in yellow with green flash flanking unit marking on nose

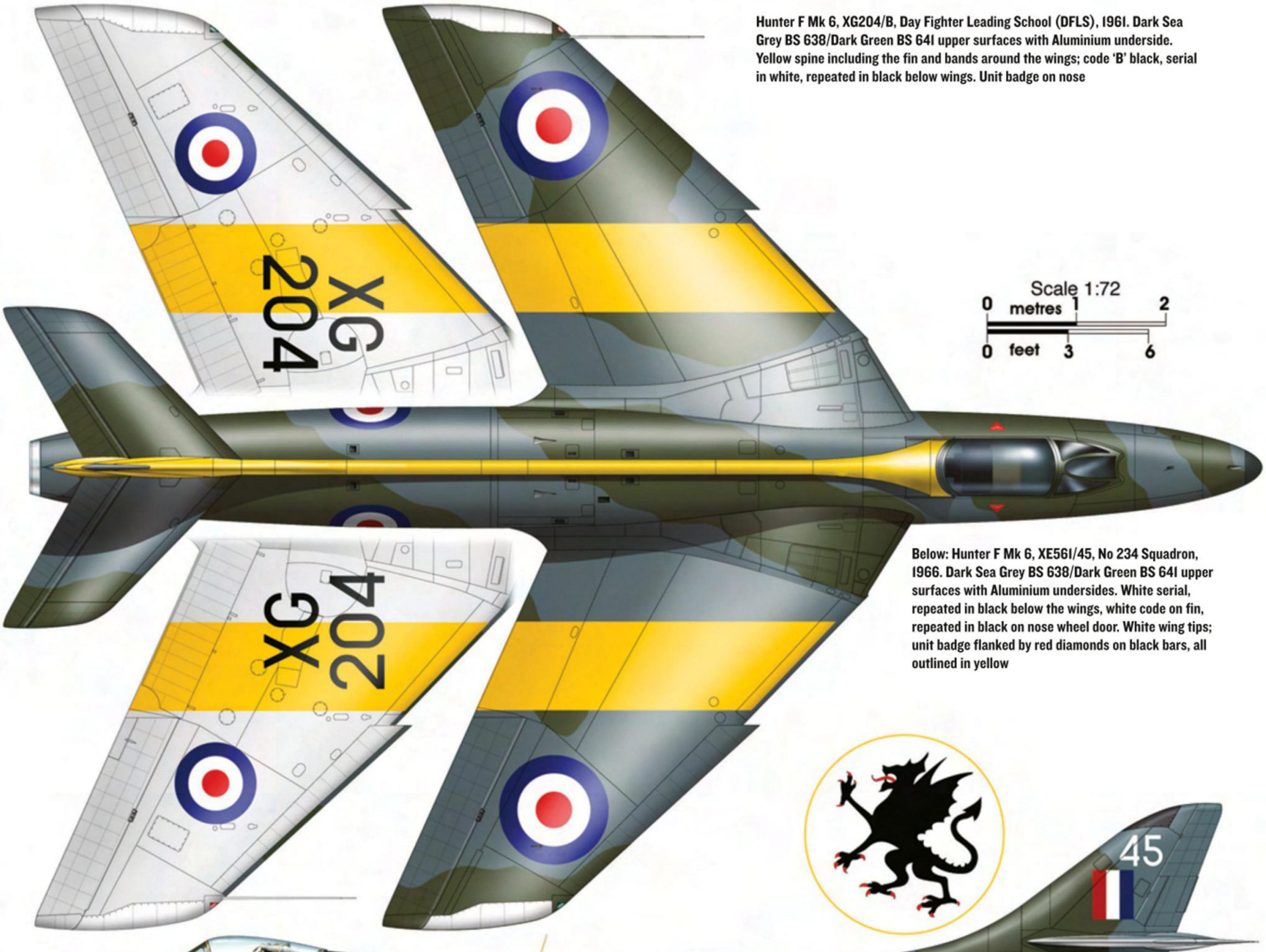
Hunter F Mk 6, XF382/R, Fighter Combat School, Stradishall, 1961. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides; orange spine, tail and wing bands. Serial in black, repeated below wings. Title on nose in white; code 'R' in white on fin, repeated in black on front nose wheel door



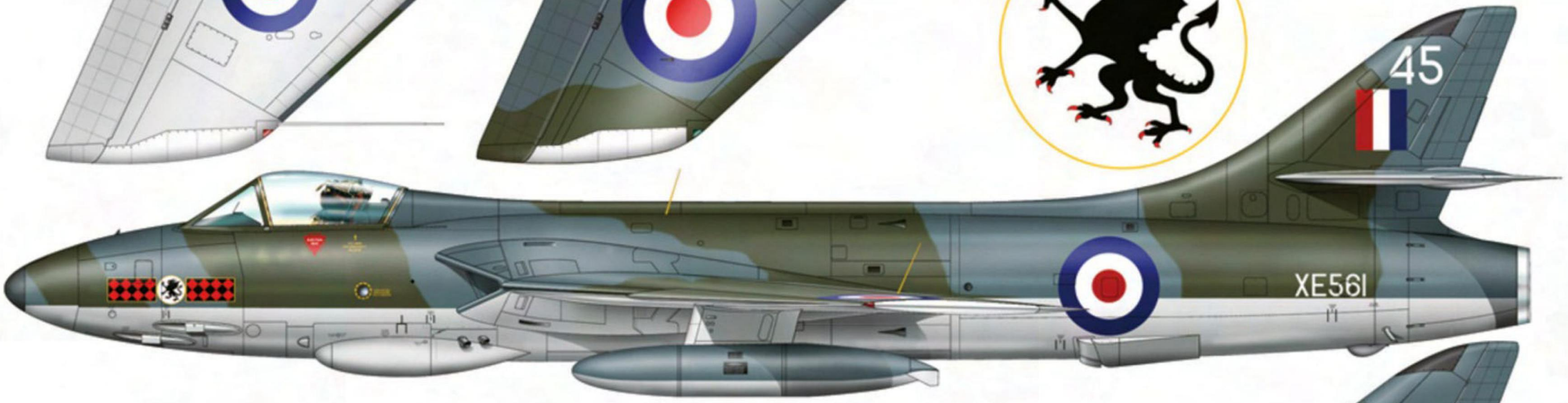

Hunter F Mk 6, XJ646/D, No.14 Squadron, 1962. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Serial in white, repeated in black below wings; code in white over a black disc. 'D' repeated in black on nose wheel door above a white bar with four blue diamonds. White bar with blue diamonds flanking fuselage roundels; unit badge on nose

Hunter F Mk 6, XG191/G, No.19 Squadron, Leconfield, 1963. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. White serial, repeated in black below wings; white code on fin, repeated in black on nose wheel door. Blue/white checks flanking fuselage roundel, unit crest on nose. White wing tips with blue flash

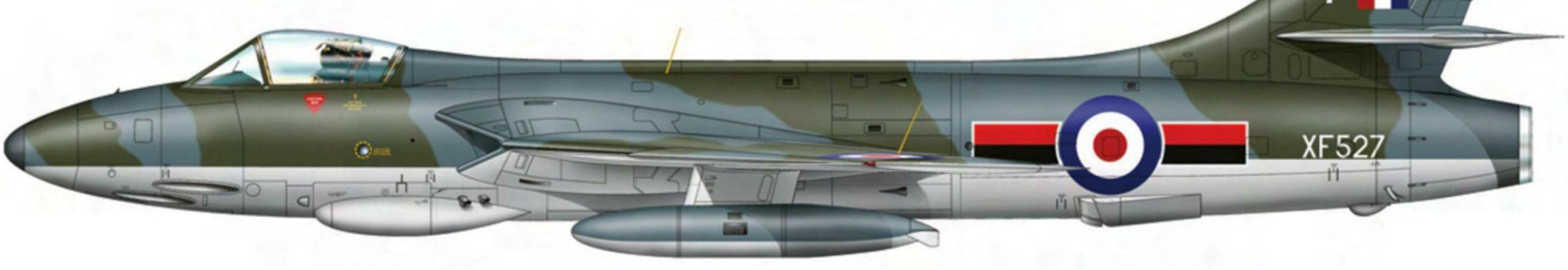
Hunter F Mk 6, XG204/B, Day Fighter Leading School (DFLS), 1961. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium underside. Yellow spine including the fin and bands around the wings; code 'B' black, serial in white, repeated in black below wings. Unit badge on nose



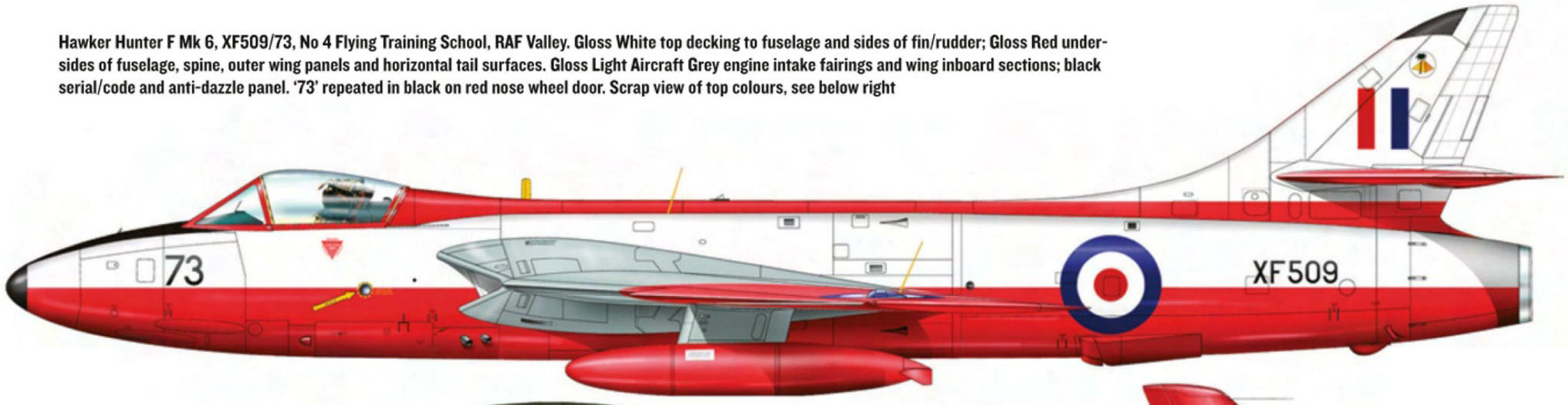

Below: Hunter F Mk 6, XE561/45, No 234 Squadron, 1966. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. White serial, repeated in black below the wings, white code on fin, repeated in black on nose wheel door. White wing tips; unit badge flanked by red diamonds on black bars, all outlined in yellow



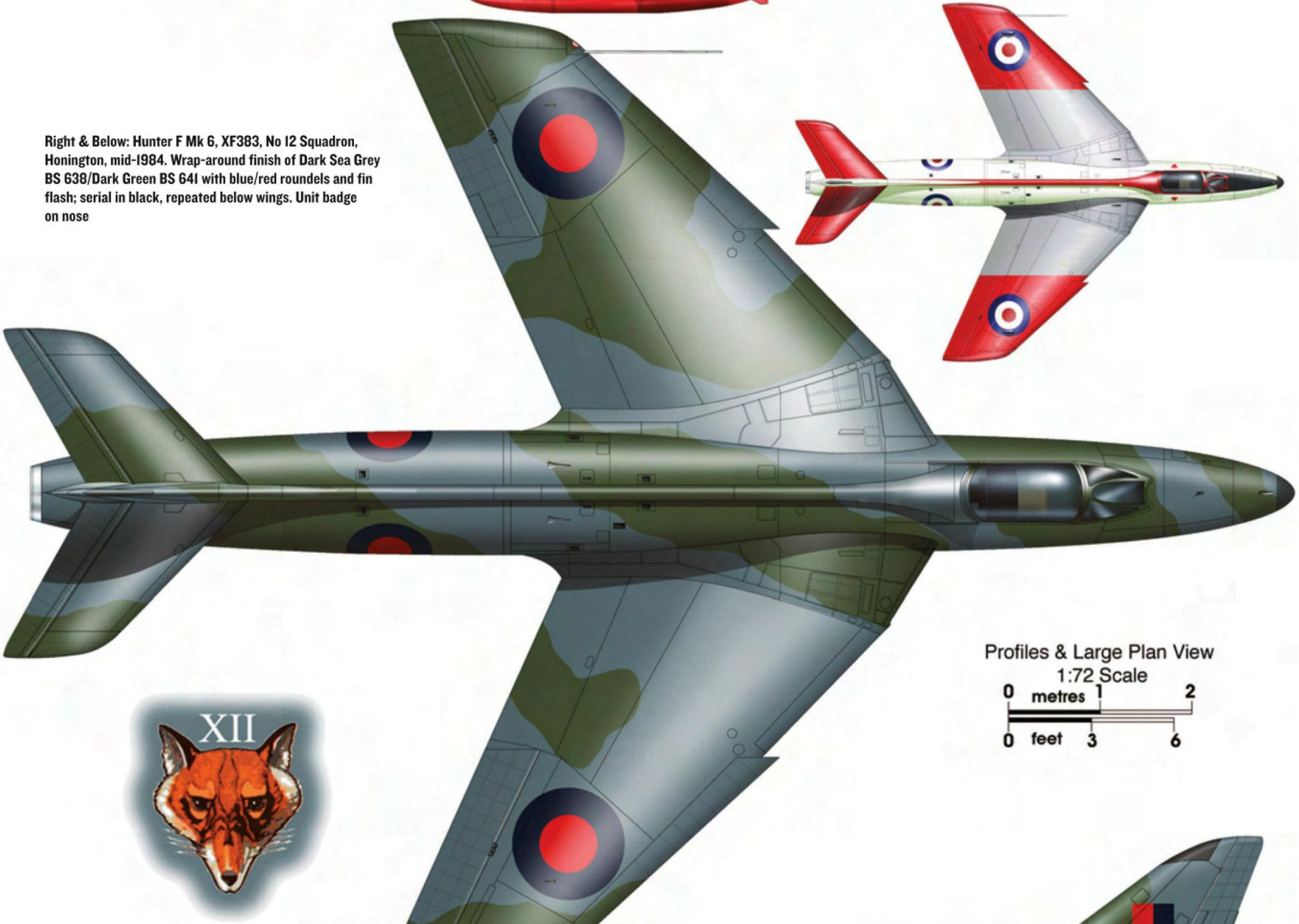

Hunter F Mk 6, XF527/P, Central Fighter Establishment/Air Fighting Development Unit, Bimbrook, late 1965. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Red/black bars, outlined in white, flanking fuselage roundels. White serial, repeated in black below wings; white code 'P' on fin



Hawker Hunter F Mk 6, XF509/73, No 4 Flying Training School, RAF Valley. Gloss White top decking to fuselage and sides of fin/rudder; Gloss Red undersides of fuselage, spine, outer wing panels and horizontal tail surfaces. Gloss Light Aircraft Grey engine intake fairings and wing inboard sections; black serial/code and anti-dazzle panel. '73' repeated in black on red nose wheel door. Scrap view of top colours, see below right




Right & Below: Hunter F Mk 6, XF383, No 12 Squadron, Honington, mid-1984. Wrap-around finish of Dark Sea Grey BS 638/Dark Green BS 641 with blue/red roundels and fin flash; serial in black, repeated below wings. Unit badge on nose




Profiles & Large Plan View
1:72 Scale
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Hunter F Mk 6, XE656/76, No 4 FTS, Valley, 1972. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White spine and fin, tailplane. bands around wings and pylons. Black serial, repeated below wings; black code '76' on nose over a white disc. '76' repeated in black on nose wheel door. Dayglo Orange external fuel tanks

Hunter F Mk 6A, XF439/17, No 63 Squadron, No. 229 OCU, Chivenor, 1972. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial, repeated below wings; black/yellow checks on nose with unit marking in same colours (note: marking not handed on other side). Yellow disc with black '17' on fin. Rear end of fuselage seems to be a dark colour, possibly stained aluminium from earlier scheme aircraft

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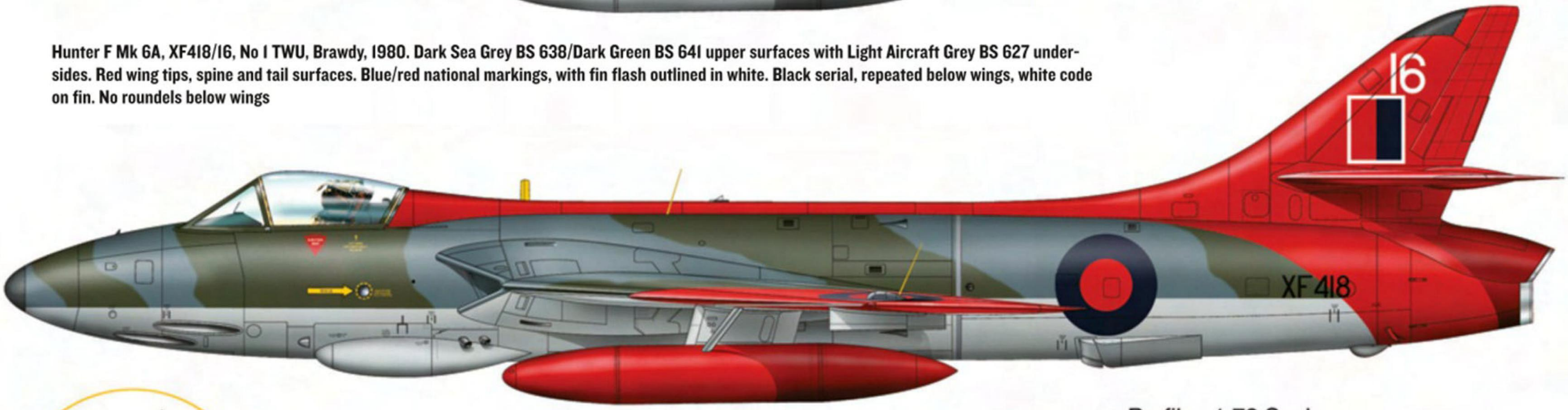
Hunter F Mk 6A, XF375, Empire Test Pilots School (ETPS), 1976. Light Aircraft Grey BS 627 overall with spine and tail surfaces, wing tips and external fuel tank in International Orange. Serial in black, repeated below wings; fin flash is outlined in white

Hunter F Mk 6A, XG226/28, No 79 Squadron, 1 TWU, Brawdy, 1979. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial repeated below the wings; white code on fin, repeated in black on nose wheel door. Red arrowheads over white bars flanking fuselage roundels; unit crest on nose. Blue/red national markings in all positions (no roundels below wings)

Hunter F Mk 6A, XF418/16, No 1 TWU, Brawdy, 1980. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Red wing tips, spine and tail surfaces. Blue/red national markings, with fin flash outlined in white. Black serial, repeated below wings, white code on fin. No roundels below wings




Profiles 1:72 Scale
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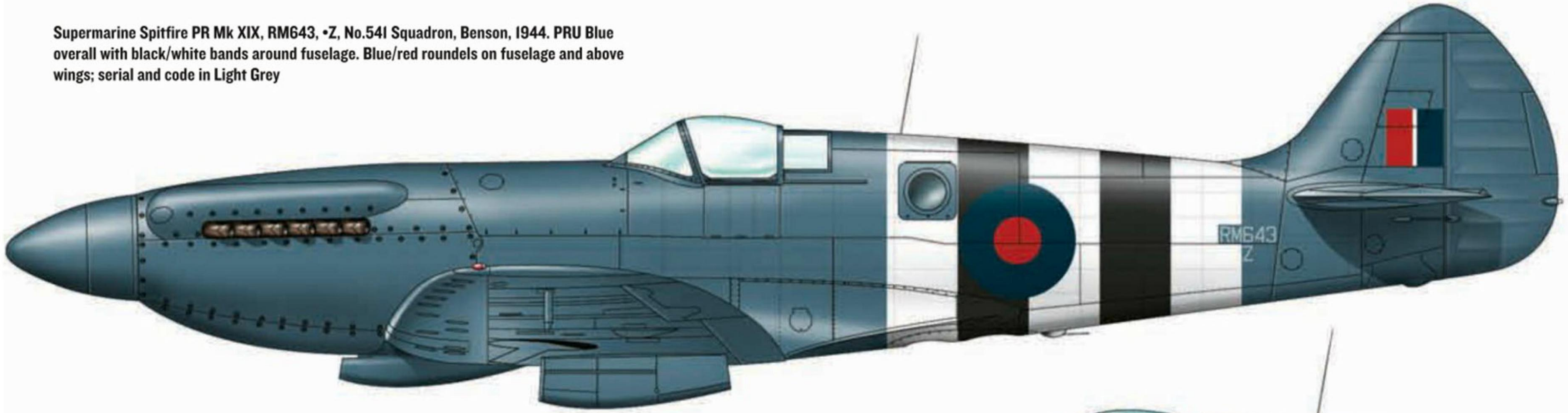
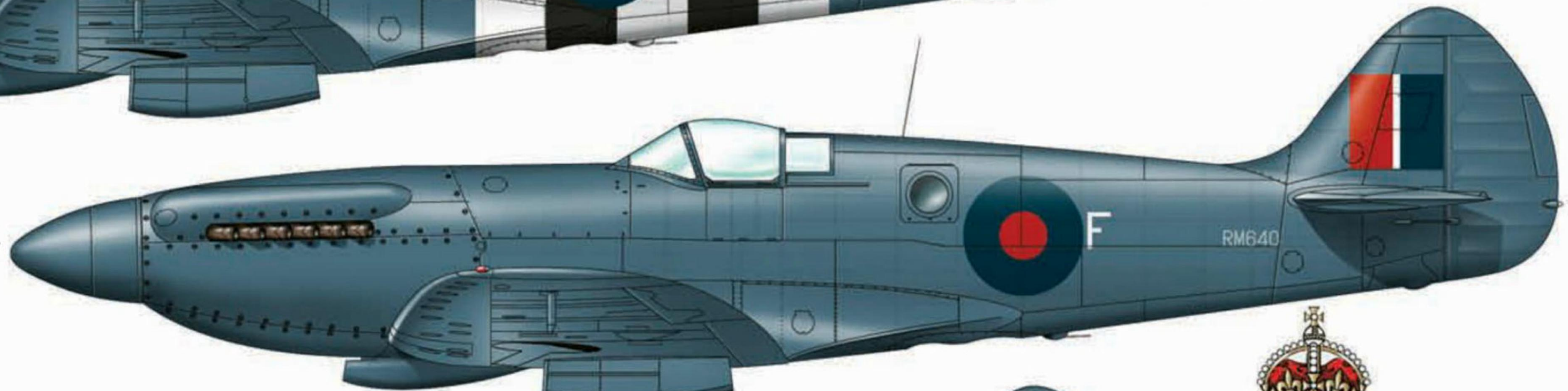
Hunter F Mk 6A, XE627/13, No 234 Squadron, 1 TWU Brawdy, 1984. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial, repeated below wings; '13' on fin over a yellow disc, repeated on a yellow nose wheel door. Red diamonds over a black bard, outlined in yellow, flanking unit badge on nose. Blue/red national markings in all positions (no roundels below wings)

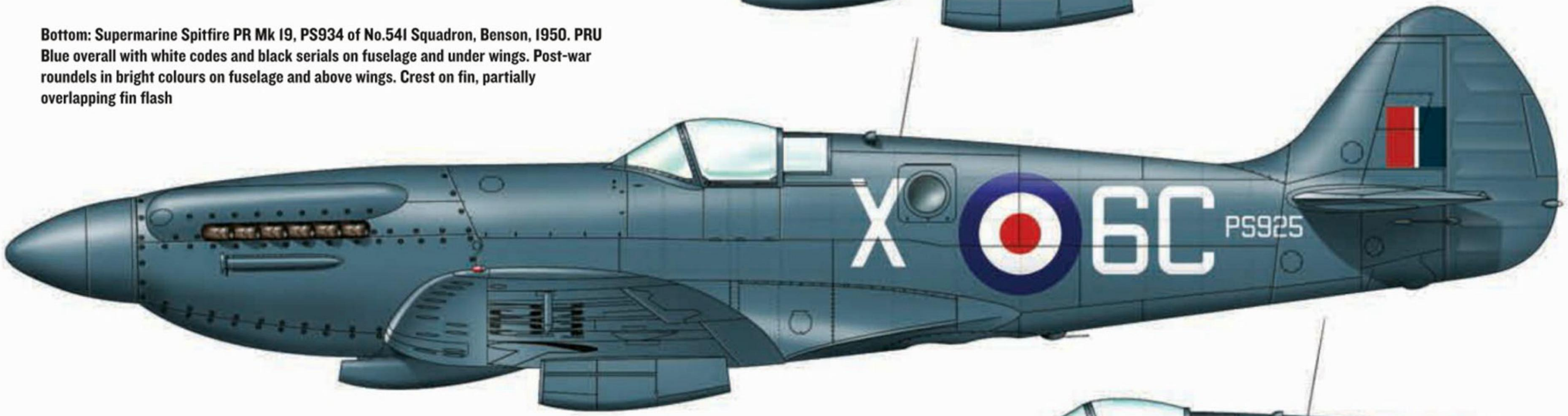
Supermarine Spitfire PR Mk XIX, RM643, •Z, No.541 Squadron, Benson, 1944. PRU Blue overall with black/white bands around fuselage. Blue/red roundels on fuselage and above wings; serial and code in Light Grey



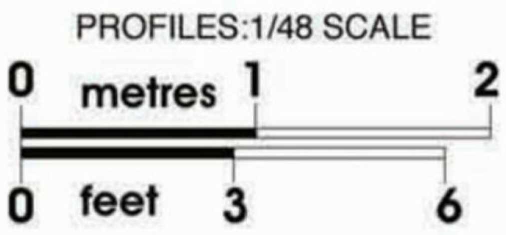

Below: Supermarine Spitfire PR Mk XIX, RM640, •F, No.682 Squadron, San Severo (Italy), summer 1944. PRU Blue overall with Blue/Red roundels on fuselage sides and above wings; white code, Light Grey serial




Below: Supermarine Spitfire PR Mk XIX, PS925, 6C•X, Photographic Reconnaissance Development Unit, Benson, 1948. PRU Blue overall with codes and serial on fuselage in white, the latter repeated in black below wings. Note mix of new and old national markings: blue/red roundels above the wings



Bottom: Supermarine Spitfire PR Mk 19, PS934 of No.541 Squadron, Benson, 1950. PRU Blue overall with white codes and black serials on fuselage and under wings. Post-war roundels in bright colours on fuselage and above wings. Crest on fin, partially overlapping fin flash






Model AIRPLANE INTERNATIONAL

Supermarine Spitfire PR Mk 19, PS890 of No.81 Squadron, Seletar (Singapore), 1950. PRU Blue overall with a Medium Grey top to the fuselage. White spinner. Roundels (in bright colours) on fuselage sides and upper surfaces of wings; serial repeated in black under wings, reading from leading edge under port, from trailing edge under starboard. Note small badge above fin flash

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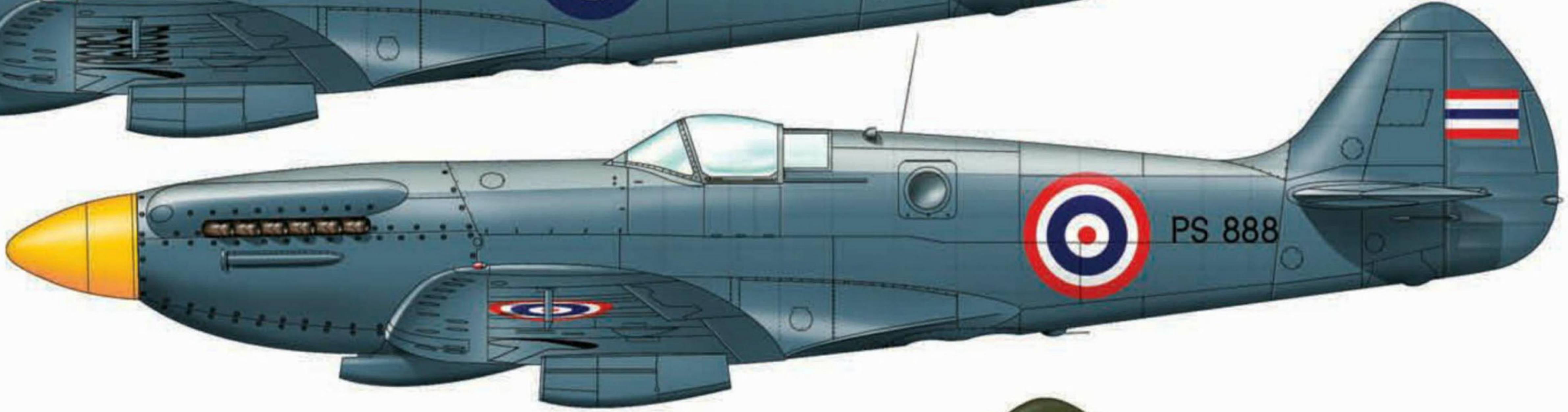
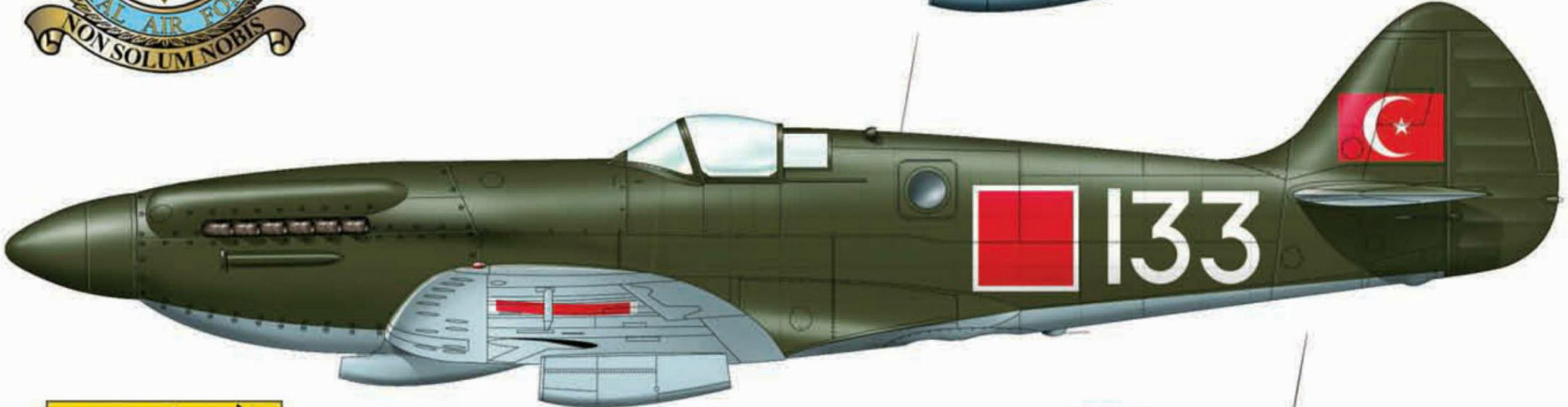
Below: Supermarine Spitfire PR Mk 19, PS888, No.1 Wing, Royal Thai Air Force, Don Muang, 1945. PRU Blue overall with a Medium Grey top to the fuselage. Yellow spinner. Roundels in six positions, flash on rudder




Left: Supermarine Spitfire PR Mk XIX, '133' of the Turkish Air Force. Dark Olive Green upper surfaces and Light Blue undersides. Turkish Air Force markings in standard six positions




Below: Supermarine Spitfire S.31, Fv31051/11 of F.11, Royal Swedish Air Force, Nyköpink, 1949. PRU Blue overall with green/white spinner front. Roundels in six positions; badge carried on both sides. All numbers in yellow

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Original Artwork by
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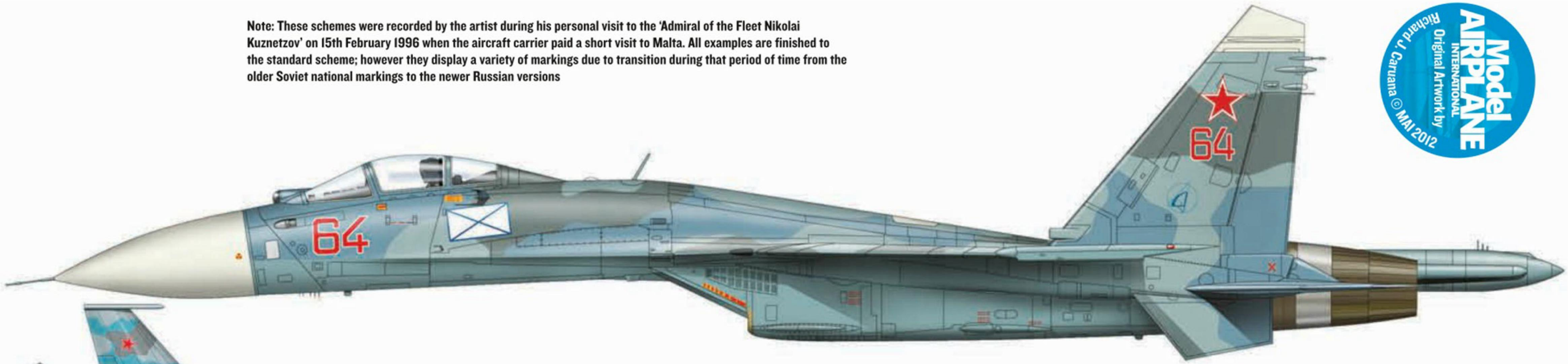
**Note: These schemes were recorded by the artist during his personal visit to the 'Admiral of the Fleet Nikolai Kuznetzov' on 15th February 1996 when the aircraft carrier paid a short visit to Malta. All examples are finished to the standard scheme; however they display a variety of markings due to transition during that period of time from the older Soviet national markings to the newer Russian versions**



**Sukhoie Su-33, 'Red 64' carrying the new Russian Navy flag on the forward fuselage; all other markings are standard. Code is in red, outlined in white**

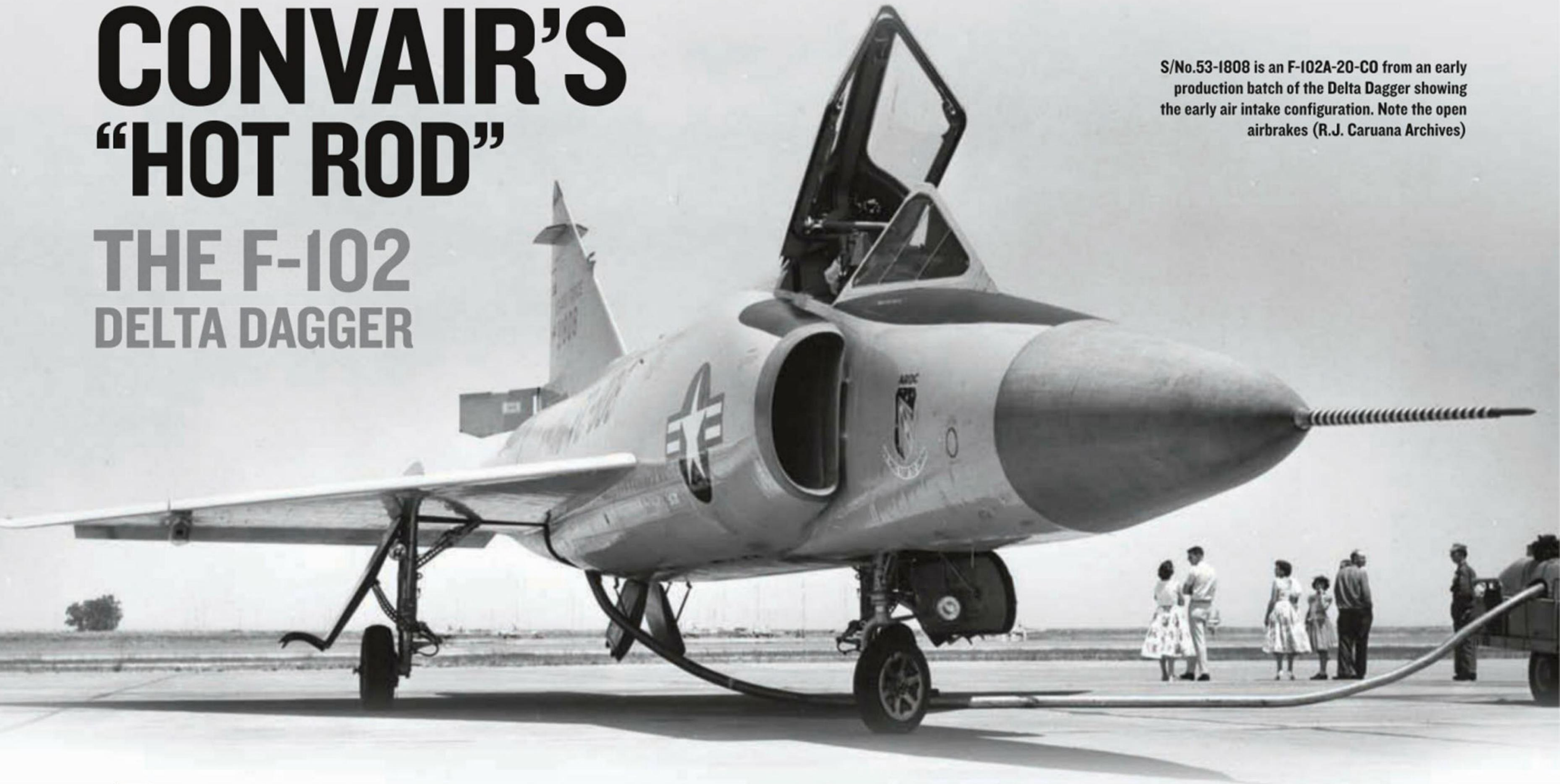
**Scrap view showing typical upper surface camouflage pattern and position of national markings**

**Sukhoi Su-33, 'Blue 109' in the finalised markings for the Russian Navy; tricolour rudders (inner and outer faces) and mid-blue code numbers outlined in white**

**Sukhoi Su-33, 'Red 60', in the older markings and one of only two to carry the 'eagle' motif on the fin (the other being 'Red 64'). Note natural metal panel on starboard fin leading edge (inner and outer faces). Red '60', outlined in white**

# CONVAIR'S "HOT ROD"

## THE F-102 DELTA DAGGER



S/No.53-1808 is an F-102A-20-CO from an early production batch of the Delta Dagger showing the early air intake configuration. Note the open airbrakes (R.J. Caruana Archives)

Although the Second World War had confirmed that the mainland of the United States of America remained inviolable by foreign intervention it was becoming increasingly clear that the long-range bomber programme that had culminated in the production of the Boeing B-29 during that conflict would inspire others to follow suit. A number of such aircraft that had been abandoned in the Soviet Union following United States Army Air Force (USAAF) raids against Japan during the closing stages of the conflict served as patterns for the production of a copy, the Tupolev Tu-4. The risk of an attack against the American mainland increased as relations deteriorated with the establishment of the Iron Curtain and barely four years after the end of the war senior officers of the USAF were forced into formulating recommendations for a new interceptor that would be required in service within a few years.

This programme, dubbed the '1954 interceptor' was thus born on 8 October 1948 and within four months the USAF approved the recommendations for a competition organised to choose such an aircraft during 1949. From the outset the new aircraft was required to carry only missile armament and therefore had to be designed around a fire-control system (FCS) that had to be designed before any work on the airframe itself had commenced. Design and development on Air-to-Air Missiles (AAM) in the US had been ongoing for years with very few examples reaching the hardware stage, let alone production.

By the end of 1946 the USAAF had issued two main requirement specifications for AAM development, one for the launch from bombers for their own defence against opposing fighters, and another for the launch from fighters against enemy bombers. Most of these programmes, however, were cancelled due to budgetary restrictions with only the Ryan MX-799 Firebird (later redesignated AAM-A-1) reaching hardware stage; even this was cancelled in April 1949. The only other missile programme to survive was that being pursued by Hughes MX-798 (AAM-A-2) which was born as a bomber-launched AAM. Eventually, of the 18 companies that had originally responded for the FCS the list was shortened down to ten, and later to two: Hughes Aircraft and North American Aviation. Hughes was the final choice of the US Department of Defence on 2 October 1950.

Meanwhile proposals for the design of the '1954 interceptor' were issued on 18 June 1950 to which six manufacturers responded by early the following year. Confirmation to proceed to mock-up stage was issued on 2 July 1954 to Convair, Republic and Lockheed. Of these three, Convair had what one could consider as a head start having been experimenting with a series of delta-winged single-seat jet aircraft under the designation P-92 dating back to just after the end of the war. In fact, Convair had been awarded the design and production of two XP-92 interceptors together with a static test aircraft in 1946; however this aircraft that had evolved into a barrel-shaped ducted-reamjet was cancelled in June 1948. Meanwhile work on the XP-92A proceeded, this being a more conventional and aesthetically pleas-

Same aircraft (S/No.53-1808) displaying the ARDC shield on the nose. Early production examples featured a shorter fin and upturned (X-Case) wingtips (R.J. Caruana Archives)

ing design, retaining the delta wing platform. It flew for the first time on 9 June 1948 and in May 1950 modifications began to install an afterburner in a lengthened rear fuselage.

Convair design won what by then had become 'Project MX-1554' after Lockheed decided to drop out and Republic's project only reached the mock-up stage. In any case it had been decided that development of three competing aircraft would be too expensive and Convair proceeded with further design and development of its Model 8-80 which bore a clear aerodynamic resemblance to the XP-92A having been awarded a contract on 31 August 1951. In order to accelerate its development it was proposed to install a Westinghouse J40 turbojet engine due to continued delays with the planned installation of the J67; work on the MX-1179 FCS was also behind schedule. Even the J40 failed to make the grade leading to a switch to the Pratt & Whitney J-57-P-7 combined with a simpler fire-control system (E-9, later to become the MG-3) into the prototypes and early production interceptor programme which by that time had been designated YF-102. Such were the delays in these programmes that eventually the MX-1554, the MX-1179 FCS and the Wright J67 engine would be incorporated into the F-102B, which in fact became known as the F-106 Delta Dart, while the F-102 project was now considered to be only as temporary stop-gap.

The first prototype (52-7994) was transferred from Convair's Lindbergh Field plant to Edwards Air Force Base (AFB) where it performed its maiden flight on 24 October 1953 piloted by Richard L. Johnson. It was lost on it's seventh flight on 2 November due to a flame-out on take-off with the fault being traced to the fuel system. The second YF-102 (52-7995) flew for the first time on 11 January of the following year, only to confirm the poor overall performance that had been registered with the first prototype. Transonic drag was much higher than estimated limiting the aircraft to Mach 0.98 in level flight with a maximum ceiling of 48,000ft. Not only were these figures below those required, but they were even well below those of the North American F-86D it had been designed to replace.

If Convair – and the USAF – were to save anything from this project it had no other choice than to go for a major redesign of the YF-102. Major modifications approved in May 1955 included the lengthening of the fuselage by 11ft combined with an area-ruled mid-section through the addition of two large fairings on either side of the rear fuselage. Air intakes were cut back and fitted with splitter plates and the definitive choice of engine falling on the J-57-P-23 which offered an increase of some 1,600lb of thrust. A thorough clean up of the airframe to reduce unnecessary weight was also undertaken. Designated YF-102A (53-1787), the first redesigned aircraft was taken up by Johnson for its first flight from Edwards AFB on 20 December 1954, just under 120 days from the initiation of the redesign programme. The following day Johnson exceeded the speed of sound with the YF-102A reaching a maximum speed of Mach 1.22 and an altitude of 53,000ft. This prototype, together with three other test aircraft were delivered to the USAF where they were put through a series of tests at Edwards prior to allowing the production of the F-102A.

First production F-102A to fly was 53-1791 and was externally similar to the YF-102As except that it was fitted with the MG-3 FCS that was later upgraded during its service life to the MG-10. The three-section internal weapons bay under the fuselage initially house three pairs of GAR-1/2/3/4 (later AIM-4) Falcon Missiles which included both infrared and semi-active radar homing versions. Twelve FFAR 2-inch rockets were fitted into the front of each of the two forward bay doors, with the calibre later raised to 2.75-inch. Weaponry was ultimately to feature the inclusion of two GAR-11 (AIM-26) Nuclear Falcon missiles housed in the central bay.

Due to handling problems during flutter tests above Mach 1.2 the air intakes were revised and by the end of 1955 the fin was also redesigned and lengthened in order to improve stability, a feature that became standard as from the 66th production aircraft while all other previous models were also retrofitted with the higher tail. Production run was to total 889 examples, ending in September 1958.

First USAF unit to receive the F-102A was the 327th Fighter Interceptor Squadron (FIS) based at George AFB in April 1956. Although officially the F-102A had been named 'Delta Dagger' it was better known in service as the 'Deuce'. It eventually served with no less than 33 FIS within the Air Defence Command (ADC) enjoying the longest service with the 57th FIS at Keflavik (Iceland) when they were replaced by the F-4C Phantom in 1973. Two units (31 and 317 FIS) flew the F-102A within the Alaskan Air Command (AAC).

In January 1959 the first F-102As reached the 525th FIS in Europe, with five other units to follow within USAF Europe (USAFE) where they served until the 526th FIS was re-equipped with the F-4E in April 1970. Pacific Air Force (PACAF) units also received the Delta Dagger beginning with the 16th FIS based at Okinawa in March 1959. In all seven squadrons were to fly the F-102A in this theatre, including service in Vietnam where they flew mainly as bomber escorts. Detachments to South East Asia (SEA) began in 1962. Only one F-102A was lost in the air due to a missile attack by a North Vietnamese MiG-21, together with 15 others due to ground fire or accidents. All F-102As were retired from PACAF in May 1971 with the 509th FIS.

As usually happens with front line aircraft that are replaced in service with more advanced types the F-102A eventually ended its service life with the Air National Guard (ANG) where it equipped 23 units. Its career with the ANG started in July 1960 and ended when the 199th FIS became the last unit ever to fly the 'Deuce' in December 1976 at Hickam AFB before converting onto the F-4C Phantom.

Project 'Pave Deuce' saw the conversion of hundreds of F-102A Delta Daggers to target drones to simulate MiG-21s. The conversion programme was entrusted early in 1973 to Sperry. The first two examples were fitted for manned operation and designated QF-102A while the production versions became known as PQM-102A and could only be flown unmanned. The first flight of the unmanned Pave Deuce took place in August 1974 and operational examples were in service the following October. Its Flight Control Stabilisation System (FCSS) was tracked via an AN/FPS-16 range radar and flown by a pilot on the ground.

Turkey and Greece were the only two countries to receive the Delta Dagger, the former having 20 single-seaters in service while the latter received twice as much. During the 1974 Turkish invasion of Cyprus Greek F-5s are reported to have engaged Turkish F-102As over the Aegean Sea. Claims of two Greek F-5s being shot down by Turkish 'Deuces' and two F-102As shot down by Greek F-5s on the other side remain unconfirmed as both countries deny losing any aircraft during that conflict. Both Greek and Turkish F-102As were retired from service in 1979.

S/No.56-1375 is seen here in the colours of the 326th FIS displaying yellow and black flashes on the fin. While these aircraft carried the unit badge on the fin on the port side, they carried the Air Defence Command shield on the starboard side (R.J. Caruana Archives)

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Convair F-102A-8-CO Delta Dagger, S/No.56-1433, 18th FIS, Wurtsmith AFB, Michigan, 1956. Gloss Grey FS.16473 overall with unpainted radome (tan). Blue/yellow bands, over white, on fin; unit badge on fin. All lettering in black

Above: Convair F-102A Delta Dagger S/No.56-1444, 326th FIS, Richards-Gebaur AFB, Missouri, 1957- 1958. Gloss Grey FS.16473 overall with yellow wing fences, wingtips, radome and nose probe. Blue/yellow fin trim with unit badge. All lettering in black

Left: Typical layout of upper surface markings; underside of wings similar

Convair F-102A-15-CO Delta Dagger, S/No.53-1802, 16th FIS, Naha AFB, Okinawa, 1959. Gloss Grey FS.16473 overall with blue wing fences; black/white checks on fin, with blue bars above and below. Unit badge on white disc on fin. All lettering in black

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Convair F-102A-45-CO Delta Dagger, S/No.55-3403, 318th FIS, McCord AFB, Washington, 1959. Gloss Grey FS.16473 overall with all lettering in black. Unit badge on nose, yellow/blue motif on tail (inspired by the Chrysler 'Way Forward' logo. Black airbrake

Model AIRPLANE INTERNATIONAL

Convair F-102A-90-CO Delta Dagger, S/No.57-0796, 325th FIS, Truax, Wisconsin, late 1950s. Gloss Grey FS.16473 overall with all lettering in black. Red FS.11136 bands around rear fuselage and wings, the former with a white edge aft. Red/white horizontal bars with blue 'V' on fin, with 327th FG crest on fin

Below: Convair F-102A-65-CO Delta Dagger, S/No.56-1184, 27th FIS, Griffiss AFB, New York, 1957-1960. Gloss Grey FS.16473 overall with yellow and black trim on tail and underwing tank. All lettering in black

Convair F-102A-35-CO Delta Dagger S/No.54-1395, 37th FIS, Ethan-Allen AFB, Vermont,1958-1960. Gloss Grey FS.16473 overall with all lettering in black. red rear section, wingtips and dorsal section aft of cockpit canopy. Blue band, edged in white, with three white stars across fin and rudder; angled band on nose in same colours

Below: Convair F-102A-45-CO Delta Dagger, S/No.53-3380, flown by Col Charles Rigney, CO of 327th FIS, George AFB, 1958. Gloss Grey FS.16473 overall with all lettering in black. White vertical tail surfaces with red flashes; 'Ace of Spades' on airbrake. Red/white/blue/yellow bands around mid fuselage. Note, main national marking moved to the nose and USAF script is larger than normal with the front section slanting down. 'The Challenger' art is painted on the nosewheel door

Profiles 1/144 Scale

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Convair F-102A-55-CO Delta Dagger, S/No.56-1017, 48th FIS, Langley AFB, Virginia, May 1960. Gloss Grey FS.16437 overall; white vertical tail surfaces with green stars and unit badge. Red wing fences. All lettering in black

Below: Convair F-102A-40-CO Delta Dagger, S/No.54-1405, 496th FIS, Hahn AFB, Germany, 1960. Glos Grey FS.16473 overall with unpainted radome; all lettering in black. Black/yellow vertical tail surfaces with unit badge at cente; black airbrake, yellow wing fences. Black/yellow bands around nose

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Convair F-102A-80-CO Delta Dagger, S/No.56-1447, 57th FIS, Keflavik AFB, Iceland, 1963. Natural metal overall with Red FS.12197 tail and wing tips. Unit badge on fin; note drop tank markings

Below: Convair F-102A-70-CO Delta Dagger, S/No.56-1260, 525th FIS, Bitburg AFB (Germany), 1963. Gloss Grey FS.16473 overall with blue/white vertical tail surfaces. Unit badge on fin; red outer wing fences. All lettering in black

Profiles 1/144 Scale

Model AIRPLANE INTERNATIONAL

Convair F-102A-45-CO Delta Dagger, S/No.55-3419, '04', 118th FIS/103rd FG, Connecticut ANG, Bradley Field, Windsor Locks, 1966. Gloss Grey FS. 16473 overall with all lettering in black. Black/white eagle motif on vertical tail surfaces and air-brake. Red wing fences; red air intake splitter plate, edged in white. ANG badge on fin, unit badge on nose

Profiles 1/144 Scale

Above: Convair F-102A--70-CO Delta Dagger, S/No.56-1262, 317th FIS, 21st Composite Wing, King Solomon Airport, September 1969. Gloss Grey FS.16473 overall with Red FS.12197 fin, wingtips and flash on underwing tank. Yellow-orange wing fences. All lettering in black. Unit badge on nose (both sides), 21st Composite Wing shield on port fin, Alaska Air Command Shield on starboard fin

Below: Convair F-102A-80-CO Delta Dagger, S/No.56-1436/PK, flown by Col. E.P. McNell, CO of 50th FIS, Udorn RTAFB, Thailand, in 1968. Uppersurfaces in Tan (FS.30219), Medium Green (FS.34012), Dark Green (FS.34062) with Light Gray (FS.36622) undersides. Yellow/black bands around mid fuselage. Lettering in white and black on fin. Note art on nosewheel door

Convair F-102A-70-CO Delta Dagger, S/No.56-1263,01, 190th FIS, Idaho ANG, August 1970. Finish as above. Sharkmouth motif on nose in red/blue/white. All lettering in black, except '01' on fin which is in white. ANG badge on fin

Convair F-102A-75-CO Dekta Dagger, S/No.56-1413, 196th FIS, 163rd FIG, California ANG, Ontario International Airport, Los Angeles, early 1970s. Gloss Grey FS.16473 overall with all lettering in black. Blue/white motif on vertical tail surfaces incorporating the ANG badge. Red/white air intake splitter plate decoration. Red wing fences

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Convair F-102A-65-CO Delta Dagger, S/No.56-1208/06, 102nd FIS, New York ANG, April 1974. Uppersurfaces in Tan (FS.30219), Medium Green (FS.34012), Dark Green (FS.34062) with Light Gray (FS.36622) undersides. Blue/white tail motif with ANG shield and 'New York' in black superimposed. All lettering in black except '06' on top of fin which is in white

Left: Convair F-102A-55-CO Delta Dagger, S/No.56-0981, Hellenic Air Force, Tanagra, 1970. Uppersurfaces in Tan (FS.30219), Medium Green (FS.34012), Dark Green (FS.34062) with Light Gray (FS.36622) undersides. National markings in six positions

Below: Convair F-102A-45-CO Delta Dagger, S/No.54-1382, Turkish Air Force, 1970. Gloss Grey FS.16473 overall with all lettering in black. Wing fences in red. National markings in six positions

Profiles 1/144 Scale

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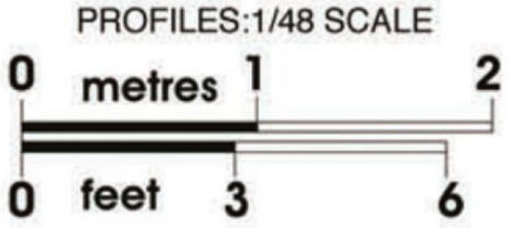
Chance-Vought F4U-4 Corsair, '310-B', VF-193 'Ghostriders' USS Princetown CV-37), 1951. Glossy Sea Blue (ANA 623) overall with all lettering and numbers in white; light blue trim to rudder, rear fuselage and wing tips. National markings in white/red only in standard positions; '310B' repeated below port and above starboard wings. Unit badge below windscreen; white mission markings on front fuselage

Chance-Vought F4U-4 Corsair, '413-A' (BuNo.80788), VF-884, USS Boxer, Korea, summer 1951. Glossy Sea Blue overall (ANA 623) Non-Specular Sea Blue anti-dazzle panel (ANA 607); all lettering in white. Yellow trim to top of rudder and propeller hub; '413' repeated on front main undercarriage doors




Chance-Vought F4U-4 Corsair, '403-A', 'Sweet Sue', VF-884, USS Boxer, Korea, summer 1951. Glossy Sea Blue (ANA 623) overall with Non-Specular Sea Blue anti-dazzle panel (ANA 607); all lettering in white. Yellow trim to top of rudder and propeller hub; '403' repeated on front main undercarriage doors. Name and mission markings in white

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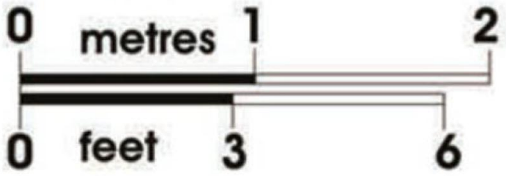
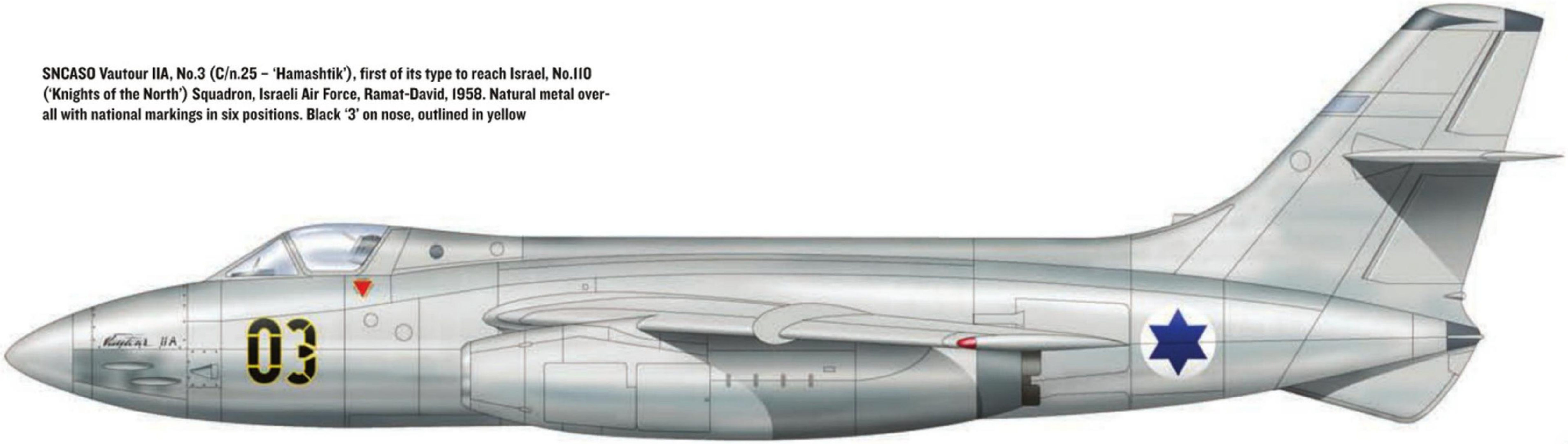
Chance-Vought F4U-4 Corsair, '22-WE' (BuNo.63008), VMF-214 'Black Sheep', USMC, Pohang (Korea), 1951. Glossy Sea Blue (ANA 623) overall with all lettering in white; standard national markings. Unit badge on engine cowling

Chance-Vought F4U-4B Corsair, '16-MR' (BuNo.62969), VMA-332, USS Bairoko (CVE-115), Korea, July 1953. Glossy Sea Blue overall (ANA 623) with all lettering in white. White band around engine cowling with red polka dots; white tail cone and propeller hub. Standard national markings; '16MR' repeated above starboard wing

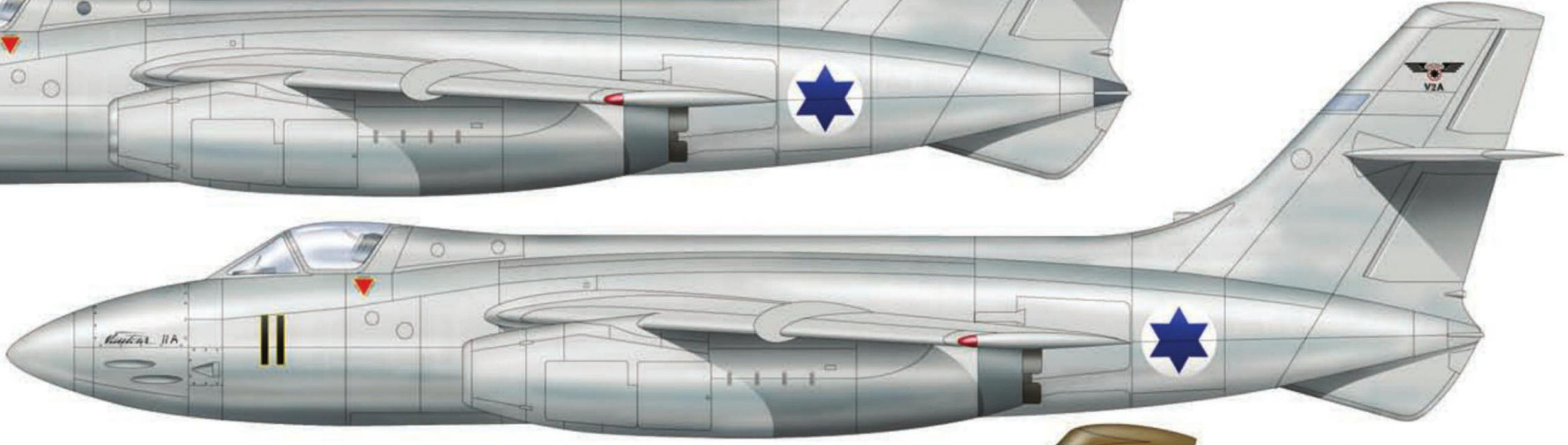



Chance-Vought F4U-4B Corsair, '302-S' (BuNo.97473), VF-53, USS Essex, operating off the Korean coast, February 1952. Glossy Sea Blue (ANA 623) overall with Non-Specular Sea Blue anti-dazzle panel (ANA 607); all lettering in white. Mid-blue propeller hub and rudder tip; '302S' repeated in white above starboard and below port wings. National markings in standard positions

SNCASO Vautour IIA, No.3 (C/n.25 – 'Hamashtik'), first of its type to reach Israel, No.110 ('Knights of the North') Squadron, Israeli Air Force, Ramat-David, 1958. Natural metal overall with national markings in six positions. Black '3' on nose, outlined in yellow



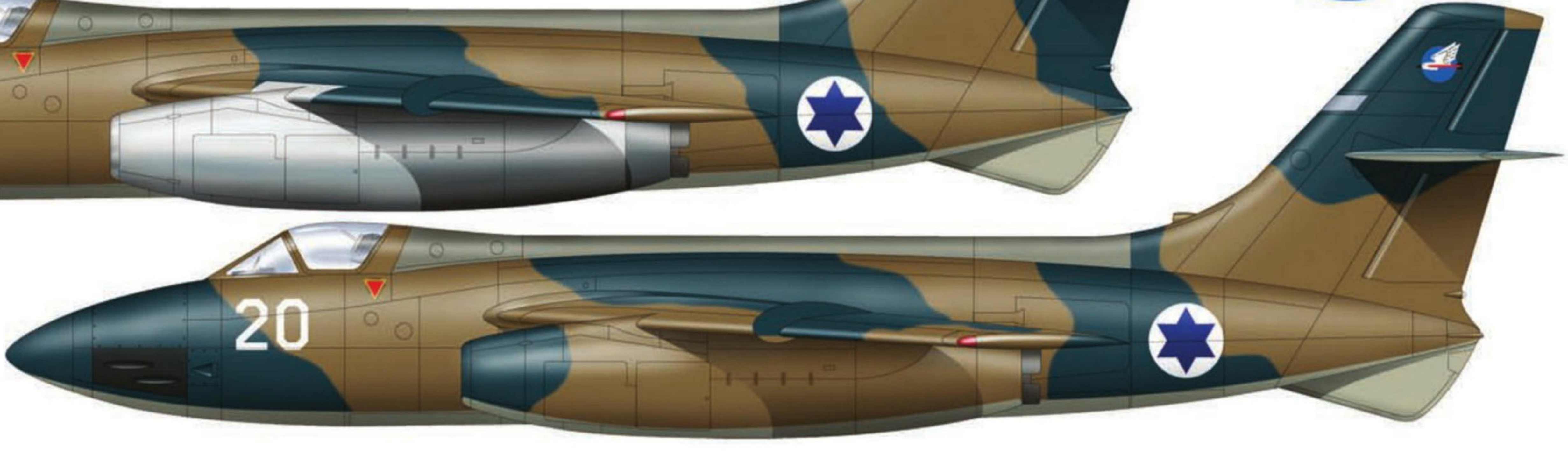

SNCASO Vautour IIA, No.11 (C/n.33), No.110 ('Knights of the North') Squadron, Israeli Air Force, 1959. Natural metal overall with national markings in six positions. Black '11' on nose, outlined in yellow. SNCASO logo on fin

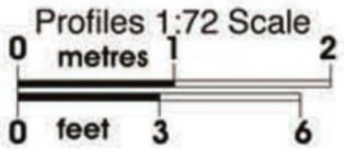



SNCASO
V2A

Below: SNCASO Vautour No.18 (C/n.46 – 'Ash-Me-Dai'), No.110 ('Knights of the North') Squadron, Israeli Air Force, early 1960s. RAL 8000/5008 upper surfaces with RAL 7044 undersides; engine cowlings remain unpainted. Red nose, white code on nose. Unit badge on fin

Bottom: SNCASO Vautour No.20 (C/n.42 – 'Ya-Gu-Ar'), No.110 ('Knights of the North') Squadron, Israeli Air Force, 1963. RAL 8000/5008 upper surfaces with RAL 7044 undersides. White code on nose, unit badge on fin



SNCASO Vautour IIB, No.31 (C/n.79 – 'Ha-ach Hakatan'), No.110 ('Knights of the North') Squadron, Israeli Air Force, 1963. RAL 8000/5008 upper surfaces with RAL 7044 undersides. Code '31' in white with name in red below. Unit badge on fin

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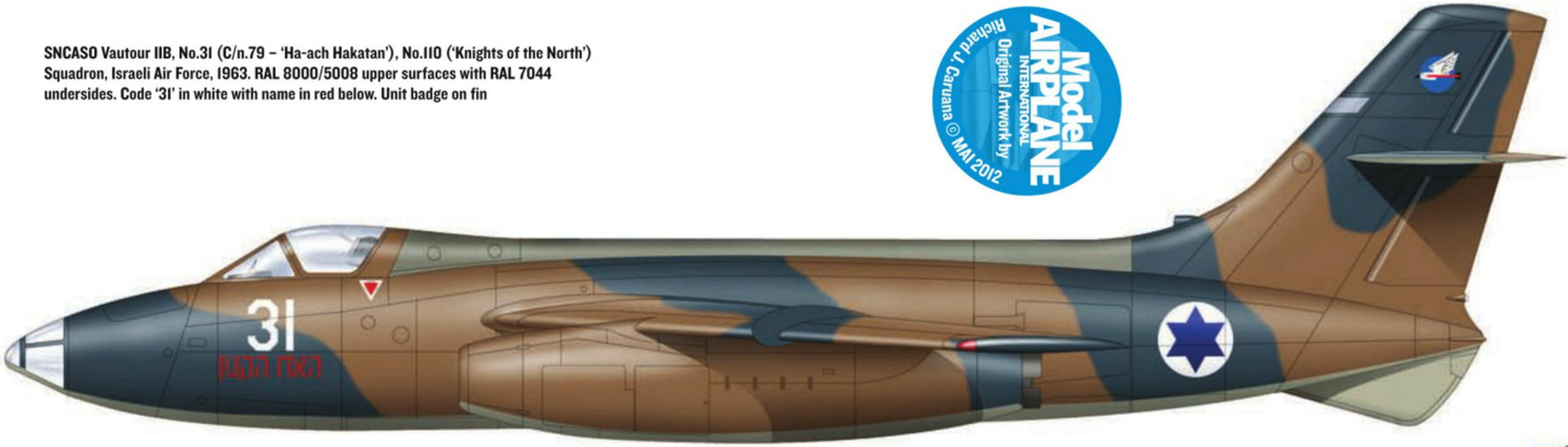
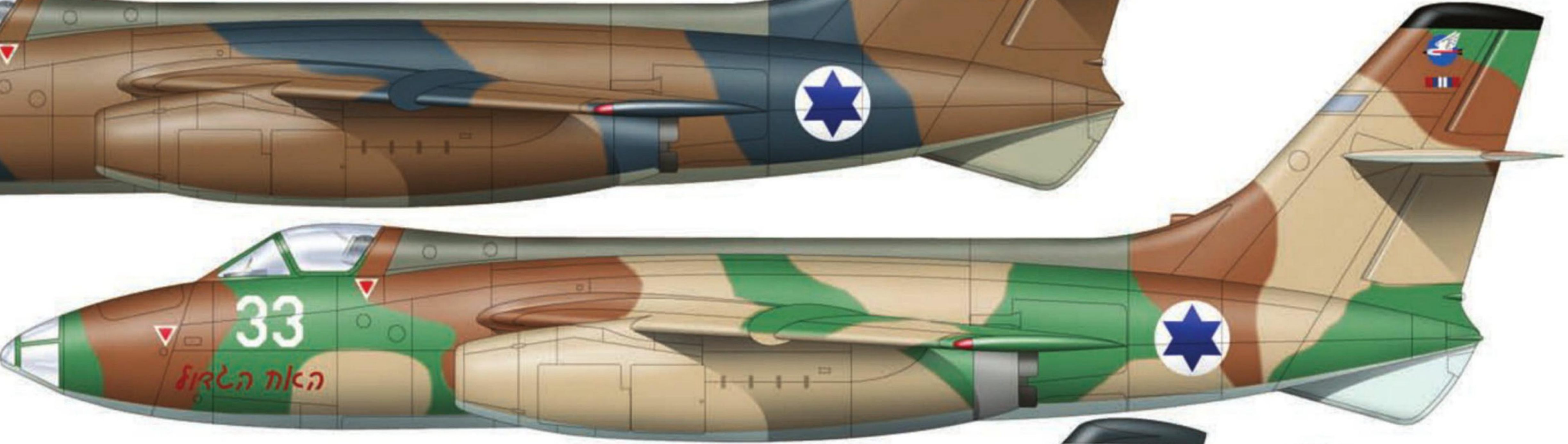
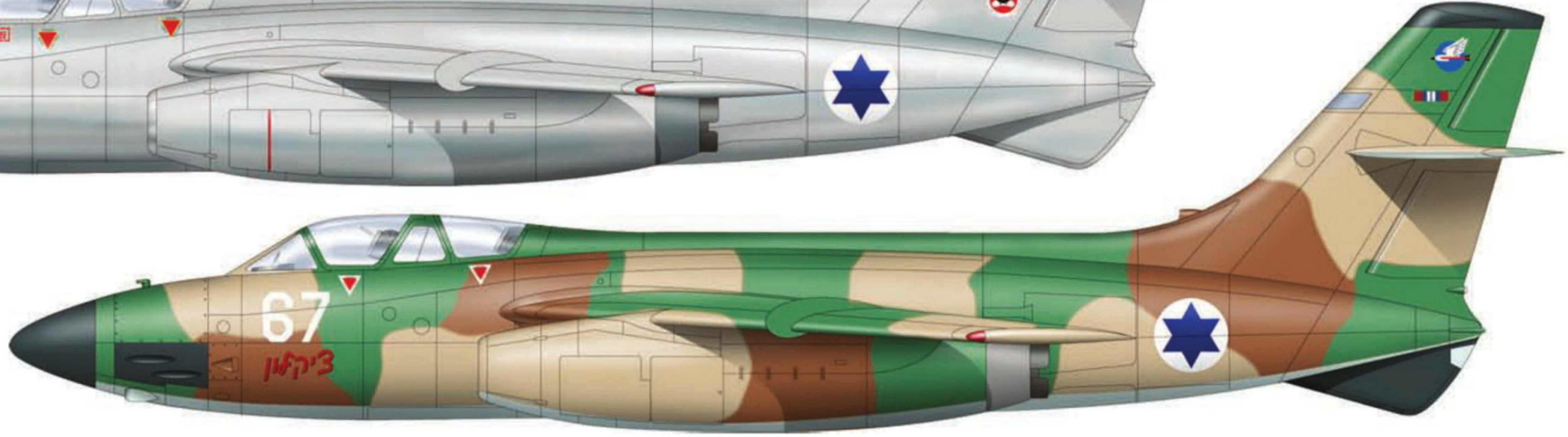


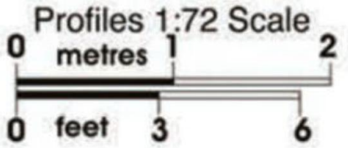

Below: SCNASO Vautour IIB (converted to BR), No 33 (C/n 95 – 'Ha-ach Hagadol'), Knights of the North Squadron, Israeli Air Force, 1968. FS 34227/30219/33531 upper surfaces with FS 35622 undersides. White codes, unit badge and 'Six Day War' ribbon on fin



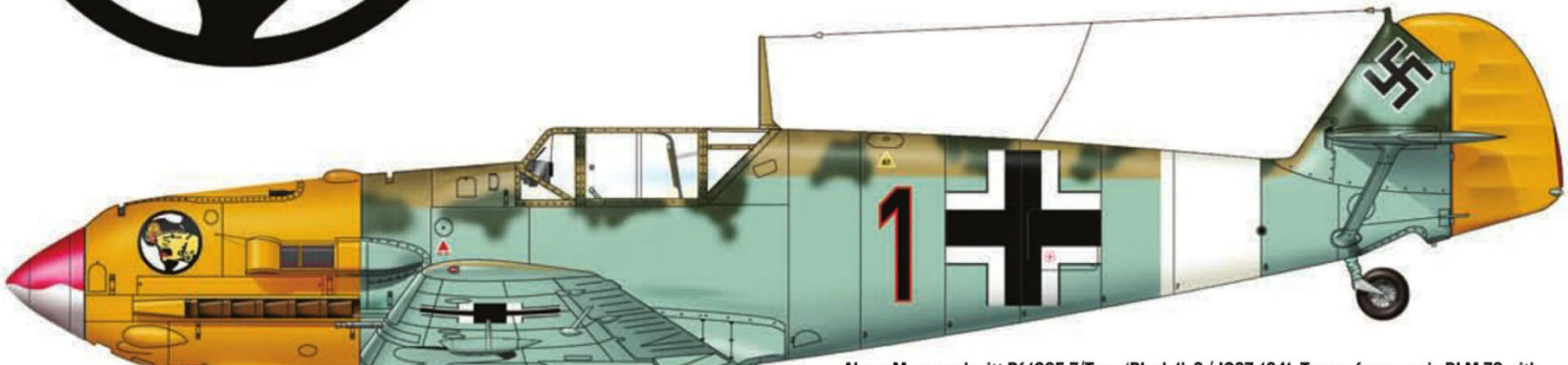
Below: SNCASO Vautour IIN, No.69 (C/n.69), No.119 ('Bat') Squadron, Israeli Air Force, 1963. Natural metal overall with black nose and fin tip. Code '69' in black. SNCASO logo and unit badge on fin. Note gun blast deflectors

Bottom: SNCASO Vautour IIN, No.67 (C/n.60 – 'Tsik-Lon'), No.110 ('Knights of the North') Squadron, Israeli Air Force, 1968. FS 34227/30219/33531 upper surfaces with FS 35622 undersides. Black nose, gun panel, ventral fin and top of fin. White codes, red name with black drop shadow underneath. Unit badge on fin, 'Six Day War' ribbon on port side of fin, kill markings in white on starboard side



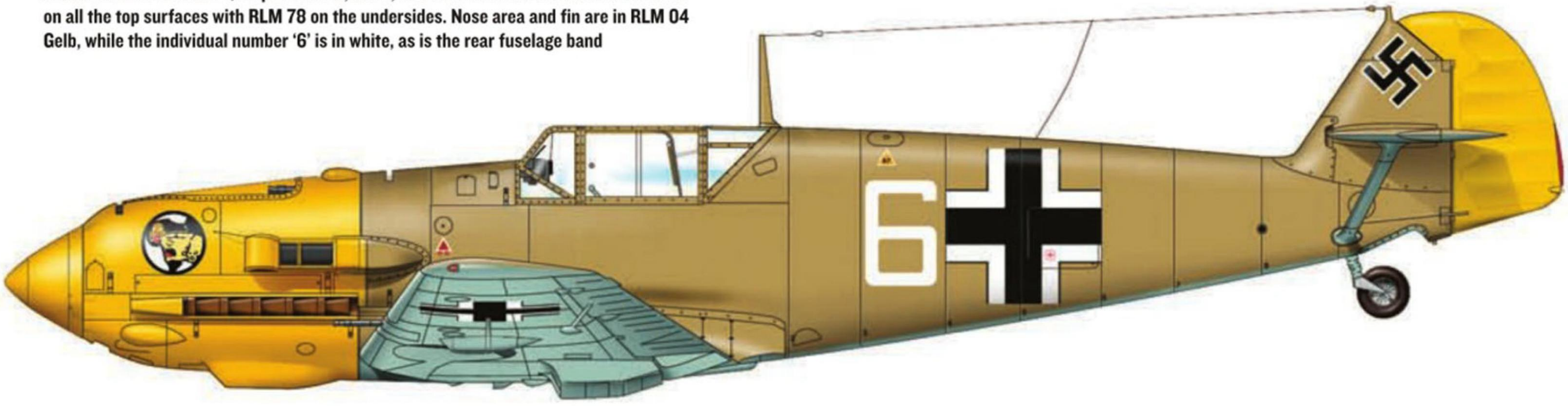



# DESERT 109s
## – JG27 –



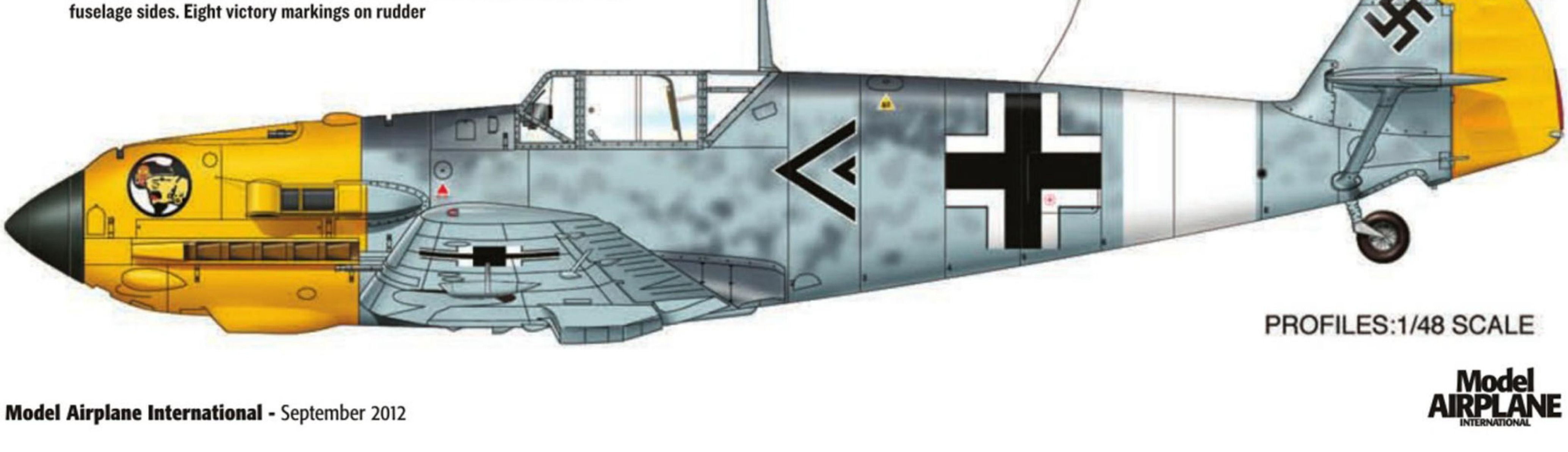
Above:Messerschmitt Bf 109E-7/Trop, 'Black 1', 2./JG27, 1941. Top surfaces are in RLM 79 with large mottles of RLM 80, over RLM 78 undersurfaces and sides of fuselage. RLM 04 Gelb nose section and rudder and RLM 21 Weiss rear fuselage band. Numeral is black with thin red outline. Spinner is red and white

Messerschmitt Bf 109E-4/Trop. 'White 6', JG27, 1941. The aircraft is finished in RLM 79 on all the top surfaces with RLM 78 on the undersides. Nose area and fin are in RLM 04 Gelb, while the individual number '6' is in white, as is the rear fuselage band

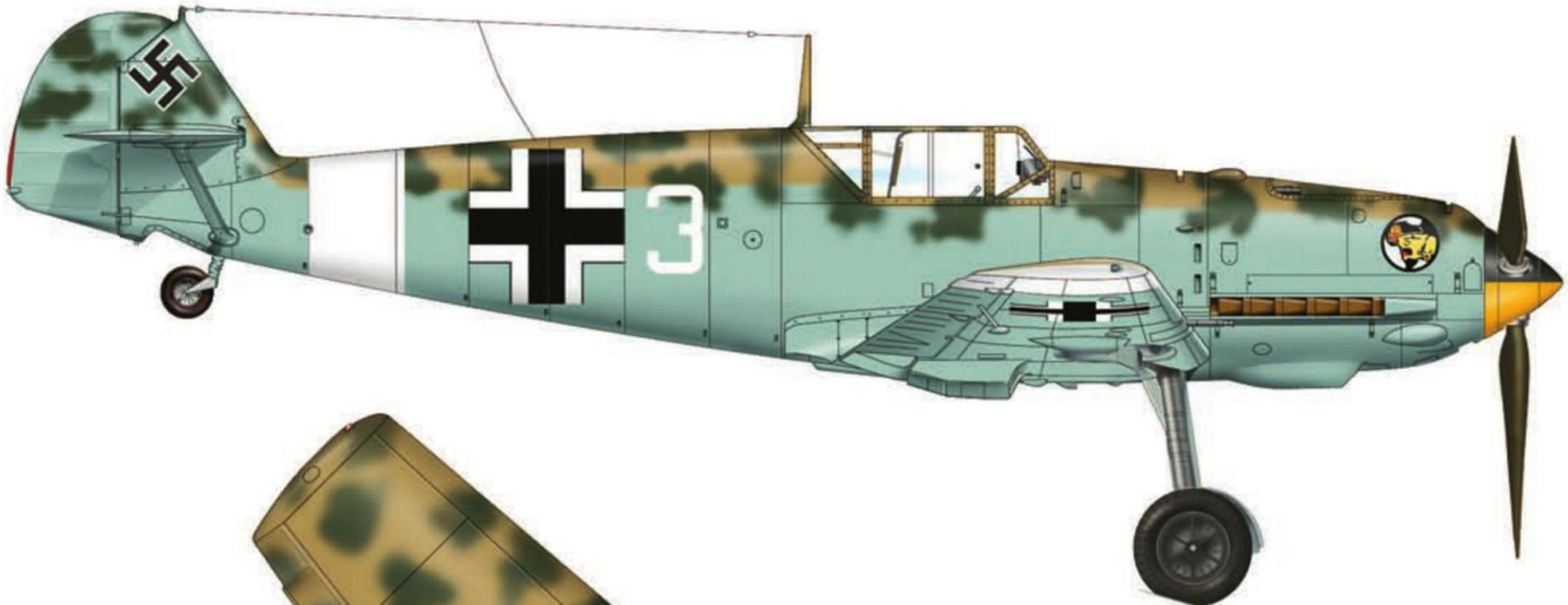


Messerschmitt Bf 109E-7/Trop, 'Black 3', of 2./JG27, Gazala, spring 1941. RLM74/75 on upper surfaces with RLM 76 undersides and fuselage sides; over-paint is probably in RLM 70 or RLM 71 on the fuselage and tail area. Red/white spinner, black '3' outlined in red

Messerschmitt Bf 109E-7/Trop, flown by Hptm. Eduard Neumann, commander of I./JG27, Gazala, May 1941. RLM 75/75 upper surfaces with RLM 76 undersides; yellow nose and rudder. RLM 70 spinner. Black chevrons, outlined in white, on fuselage sides. Eight victory markings on rudder



PROFILES:1/48 SCALE



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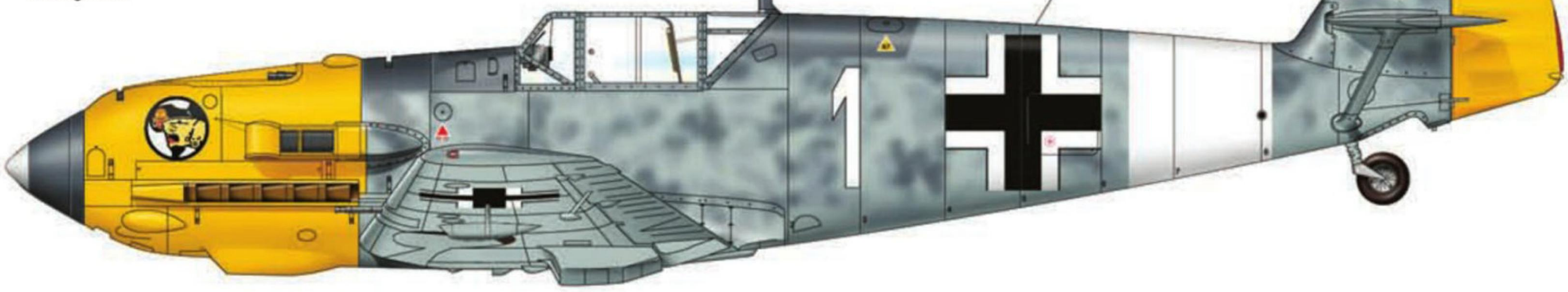
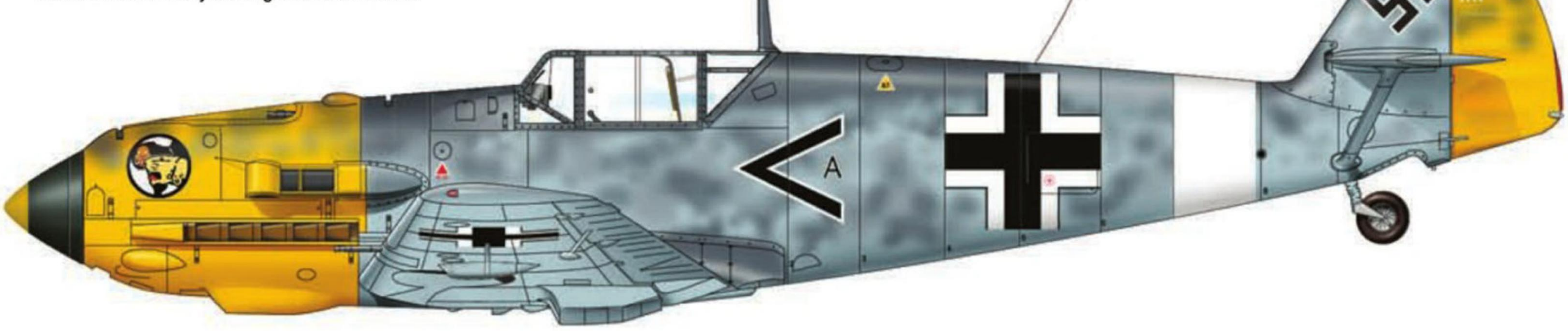
**Messerschmitt Bf 109E-4/Trop, flown by Hans-Joachim Marseille, North Africa, 1941. RLM 79 uppersurfaces with mottles in RLM 80; RLM 78 undersides and fuselage sides. Spinner in RLM 70 and yellow. White rear fuselage band and underside of wing tips. White '3' on fuselage sides**

Messerschmitt Bf 109E-4/Trop, 'White 1', flown by Hptm. Karl-Wolfgang Redlich, commander of I./JG27, Gazala (Libya), July 1941. RLM 74/75 upper surfaces with RLM 76 undersides. Yellow nose and rudder. Spinner in RLM 70 with a white tip. White '1' outlined in black, white rear fuselage band

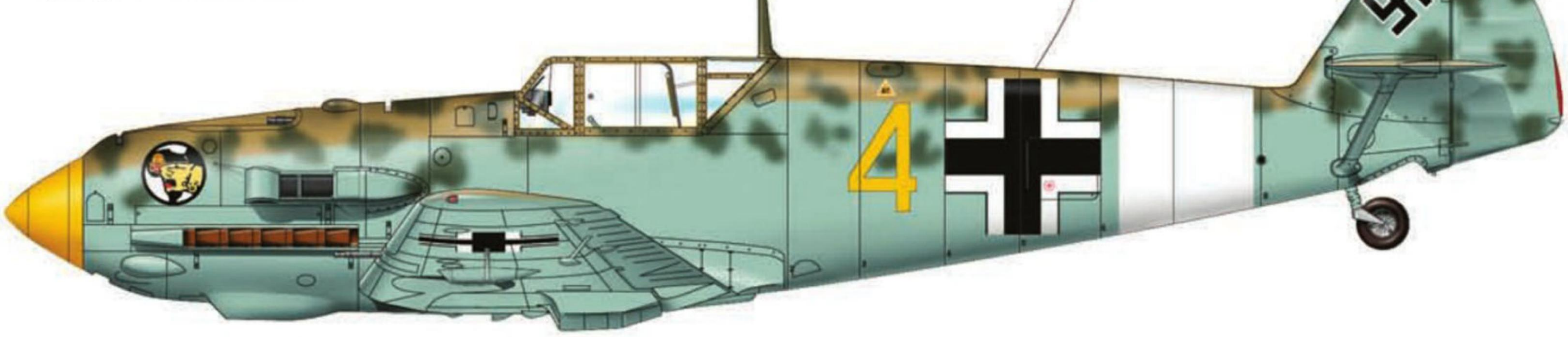


Messerschmitt Bf 109E-7/Trop, flown by Oblt Ludwig Franzisket, Gruppen-Adjutant of I./JG27, Castel Benito, April 1941. RLM 74/75 upper surfaces with RLM 76 undersides; yellow nose and rudder. RLM 70 spinner with yellow tip. Black chevron and 'A', outlined in white, on fuselage sides. Fourteen victory markings in white on rudder

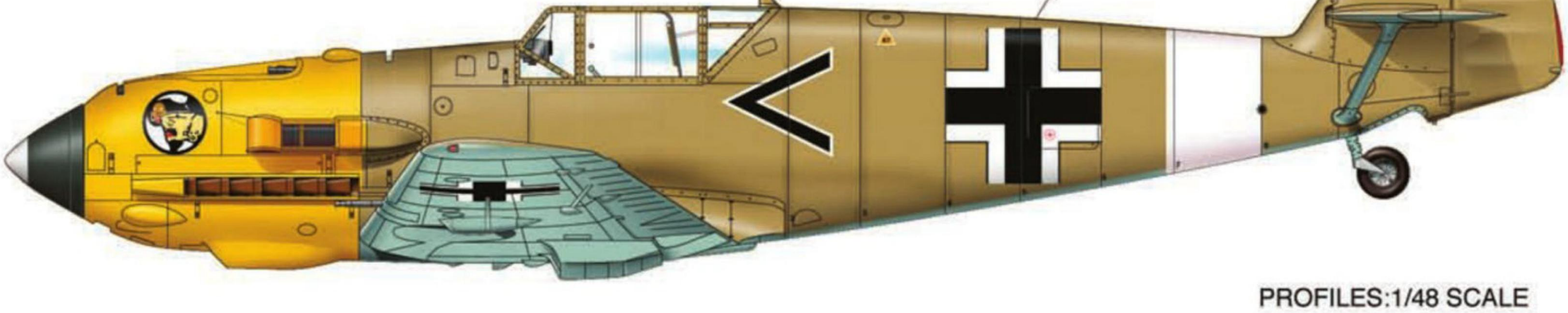


Messerschmitt Bf 109E-4/Trop, 'White 12' of II/JG27, 1941. RLM 78 on all undersides going high on the fuselage sides with RLM 79 on upper surfaces with large mottles in RLM 80. Spinner is RLM 70, white fuselage band and black-outlined white '12'

Messerschmitt Bf 109E-7/Trop, 'Yellow 4', 3./JG27. Gazala (Libya), summer 1941. RLM 79 uppersurfaces with RLM 78 undersides; RLM 80 mottling on upper surfaces. Yellow spinner, yellow '4' outlined in black



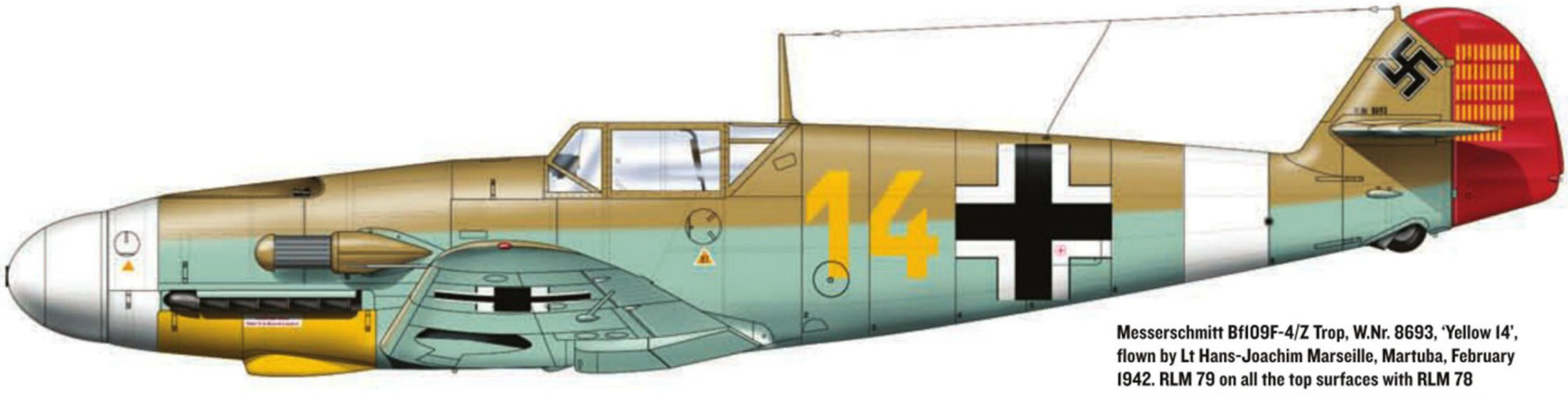
Messerschmitt Bf 109E-7/Trop, flown by Oblt Ludwig Franzisket, Gruppen Adj. of I/JG27, El Gazala, Libya, autumn 1941. RLM 79 upper surfaces with RLM 78 undersides; RLM 04 Gelb nose with spinner in RLM 70 and white. White rear fuselage band. Black chevron, outlined in white, on fuselage sides



PROFILES:1/48 SCALE



Model AIRPLANE INTERNATIONAL



Messerschmitt Bf109F-4/Z Trop, W.Nr. 8693, 'Yellow 14', flown by Lt Hans-Joachim Marseille, Martuba, February 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose and rear fuselage band. Yellow underside of engine cowling. Red rudder with yellow victory markings. '14' in yellow on fuselage sides

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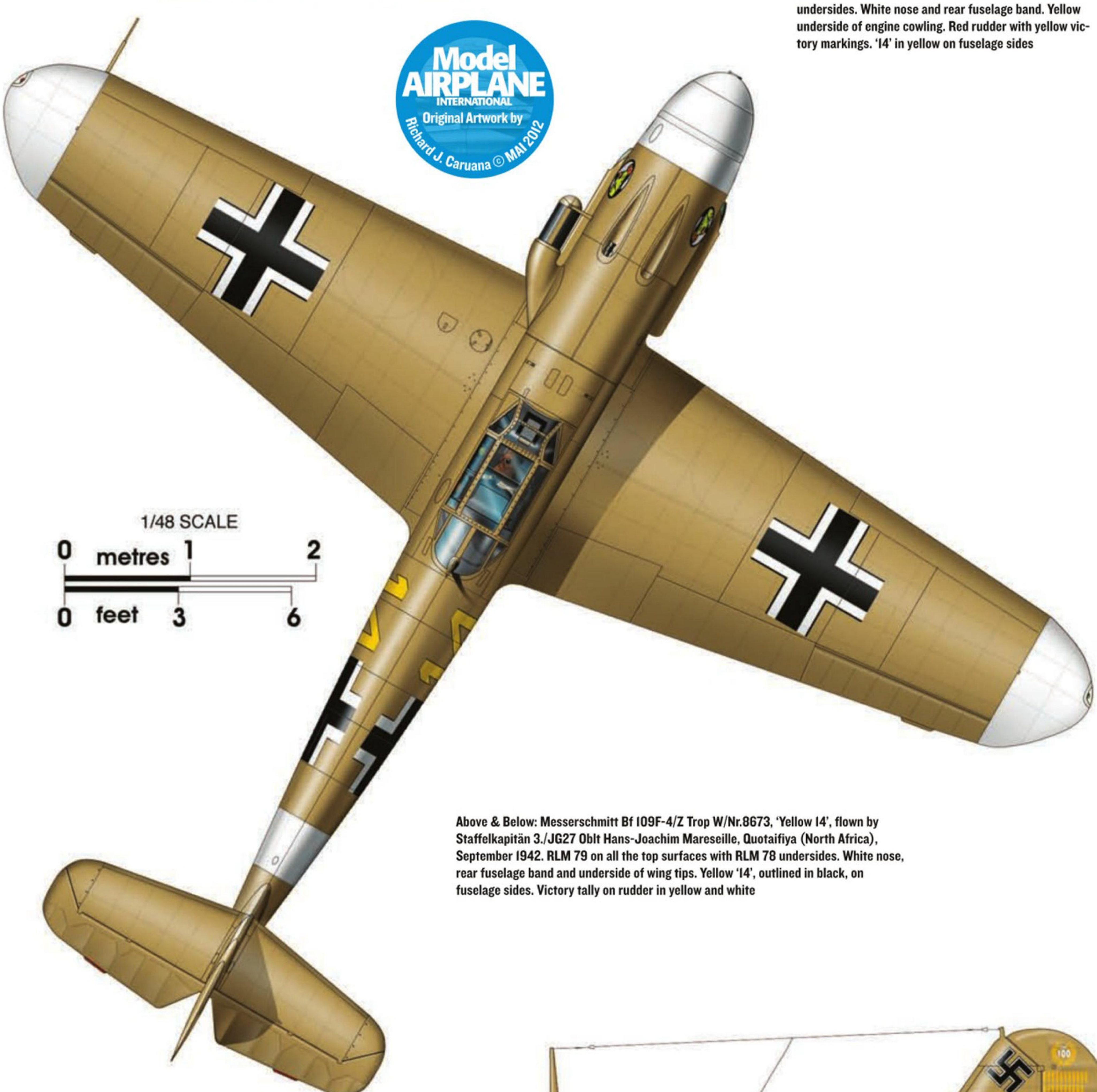
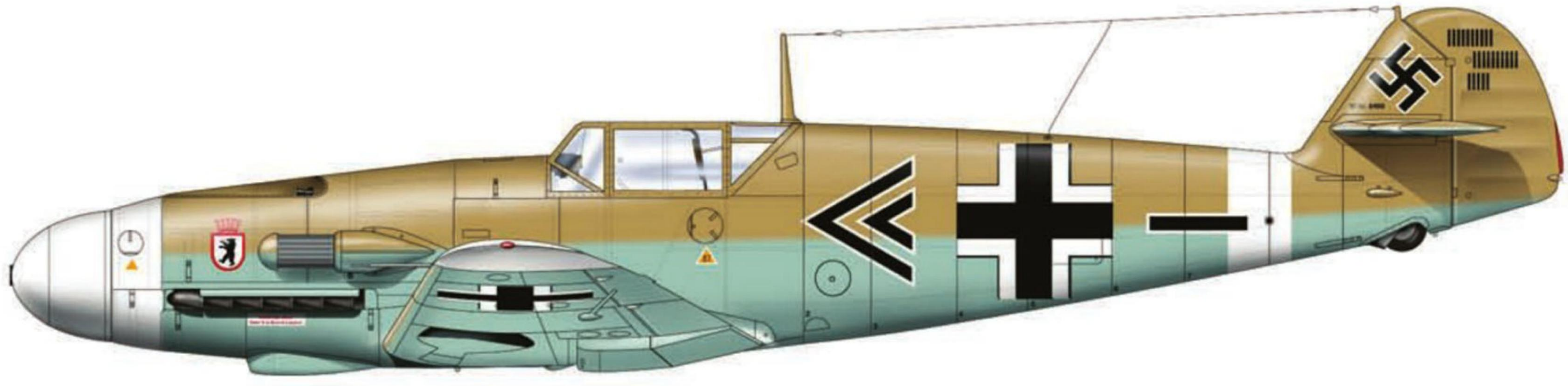
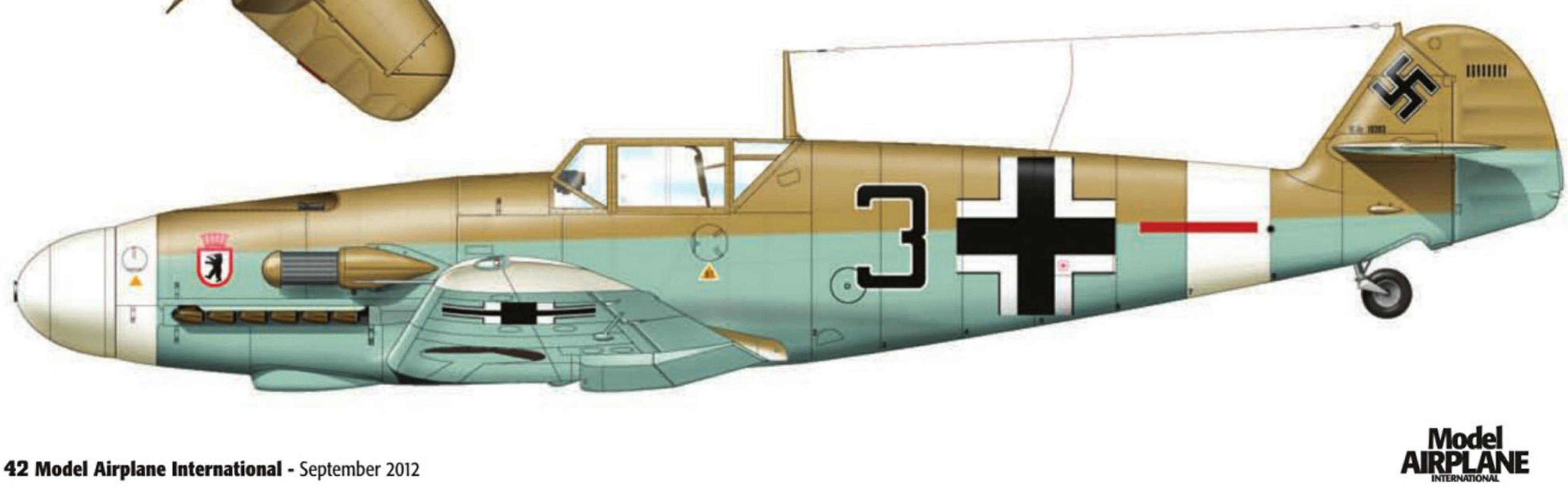



Above & Below: Messerschmitt Bf 109F-4/Z Trop W/Nr.8673, 'Yellow 14', flown by Staffelkapitän 3./JG27 Oblt Hans-Joachim Mareseille, Quotaifiya (North Africa), September 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and underside of wing tips. Yellow '14', outlined in black, on fuselage sides. Victory tally on rudder in yellow and white

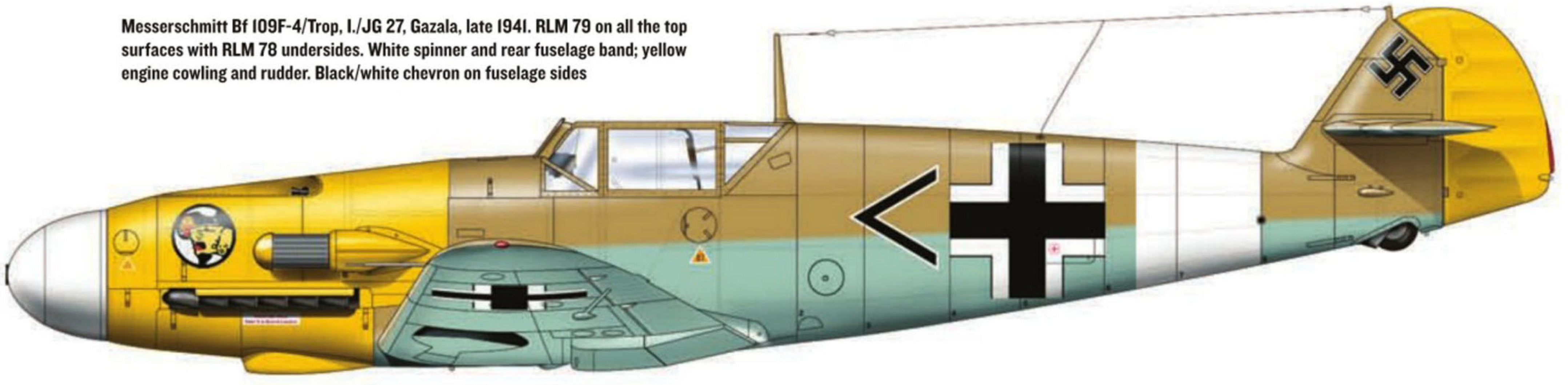


Above & Below: Messerschmitt Bf 109F-4, W/Nr.8469, flown by Hptm. Wolfgang Lippert, Gruppenkommandeur II./JG27, El Gazala (Libya), autumn 1941. RLM 78 upper surfaces with RLM 79 underside; white nose, wing tips and rear fuselage band. Double chevron and horizontal bar in black, outlined in white; 25 victories on rudder

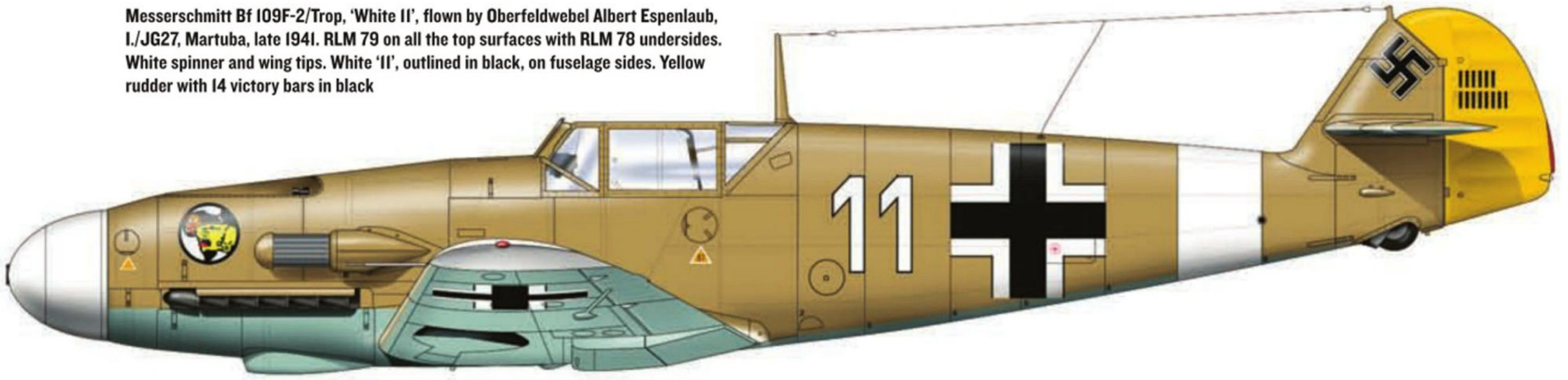
Below: Messerschmitt Bf 109F-4/Z Trop, W/Nr.10203, 'Black 3', flown by Staffelkapitän Oblt Ernst Boerngen, 5./JG27, summer 1942. RLM 79 on all upper surfaces with RLM 78 undersides going half way up the fuselage sides. RLM 21 nose, wing tips and rear fuselage bands. Horizontal bar on rear fuselage in RLM 23 Rot, white the number '3' is black (RLM 22) oulined in white (RLM 21). Note eight vitory markings high on the rudder in black



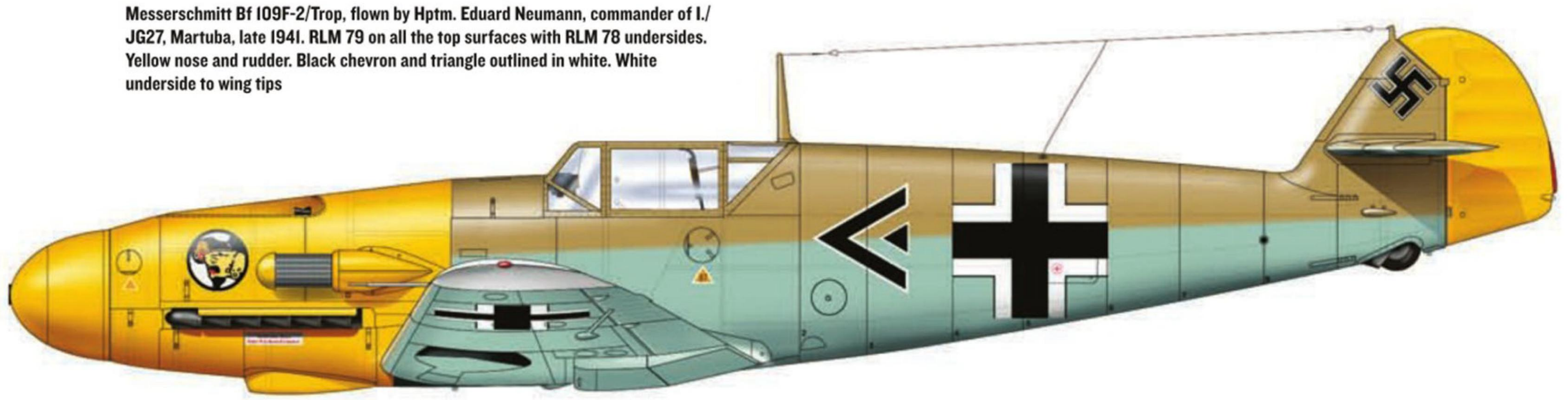
Messerschmitt Bf 109F-4/Trop, I./JG 27, Gazala, late 1941. RLM 79 on all the top surfaces with RLM 78 undersides. White spinner and rear fuselage band; yellow engine cowling and rudder. Black/white chevron on fuselage sides



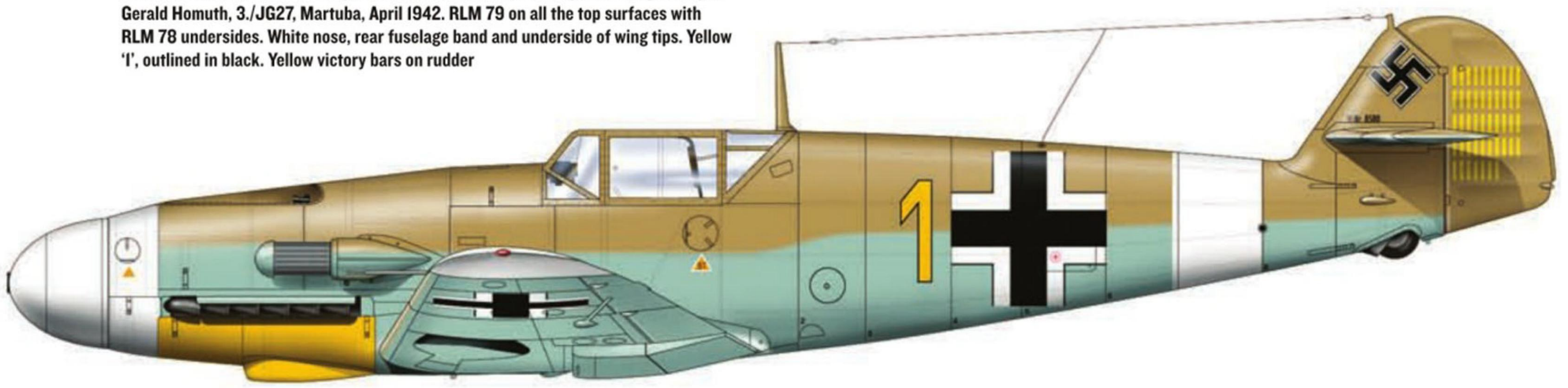
Messerschmitt Bf 109F-2/Trop, 'White 11', flown by Oberfeldwebel Albert Espenlaub, I./JG27, Martuba, late 1941. RLM 79 on all the top surfaces with RLM 78 undersides. White spinner and wing tips. White '11', outlined in black, on fuselage sides. Yellow rudder with 14 victory bars in black



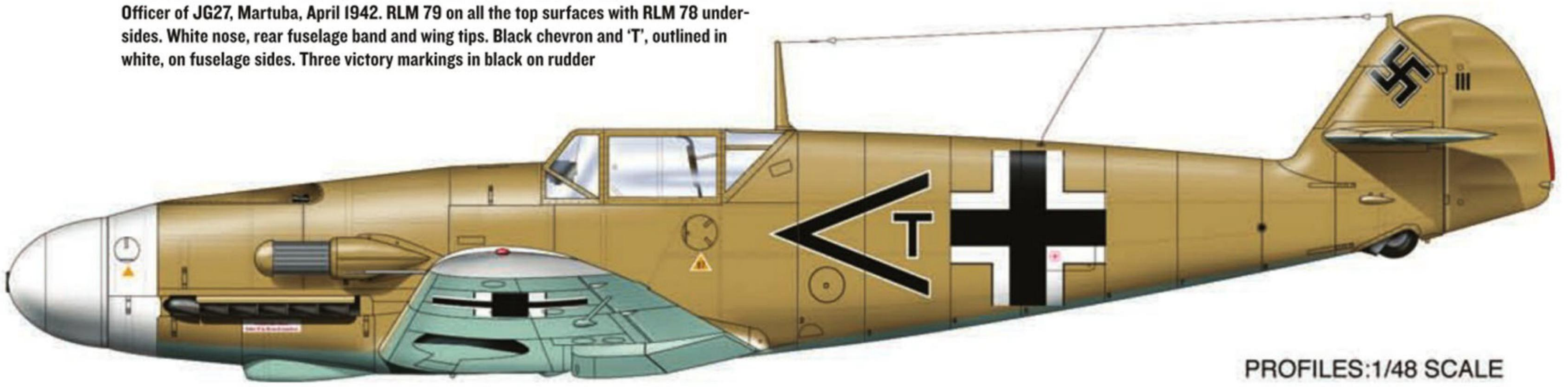
Messerschmitt Bf 109F-2/Trop, flown by Hptm. Eduard Neumann, commander of I./JG27, Martuba, late 1941. RLM 79 on all the top surfaces with RLM 78 undersides. Yellow nose and rudder. Black chevron and triangle outlined in white. White underside to wing tips



Messerschmitt Bf 109F-4/Z Trop, W/Nr.8580, 'Yellow 1', flown by Staffelkapitän Hptm. Gerald Homuth, 3./JG27, Martuba, April 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and underside of wing tips. Yellow '1', outlined in black. Yellow victory bars on rudder

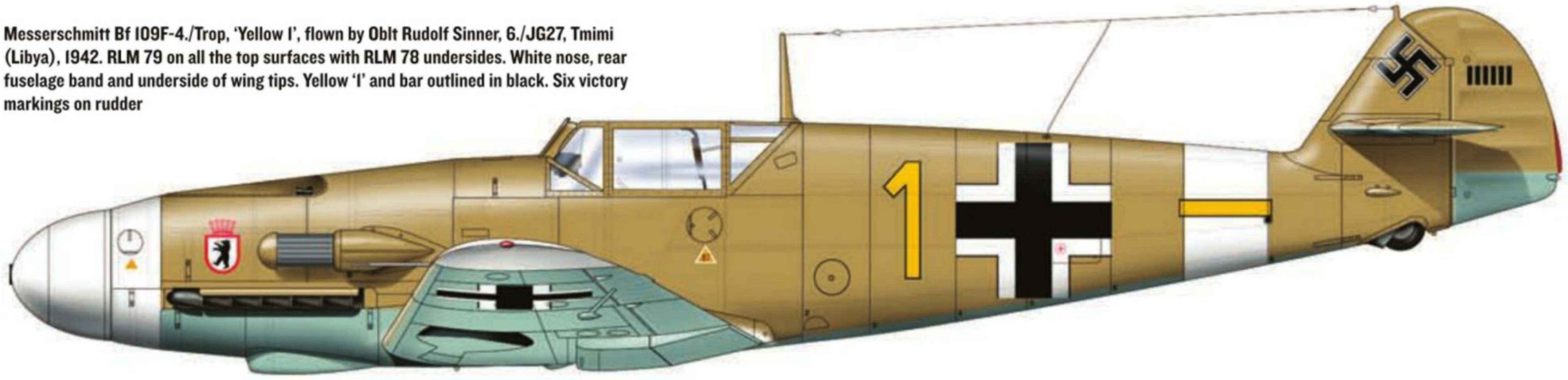


Messerschmitt Bf 109F-4/Z Trop, 'Black <T', flown by Oblt Rudolph Sinner, Technical Officer of JG27, Martuba, April 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and wing tips. Black chevron and 'T', outlined in white, on fuselage sides. Three victory markings in black on rudder

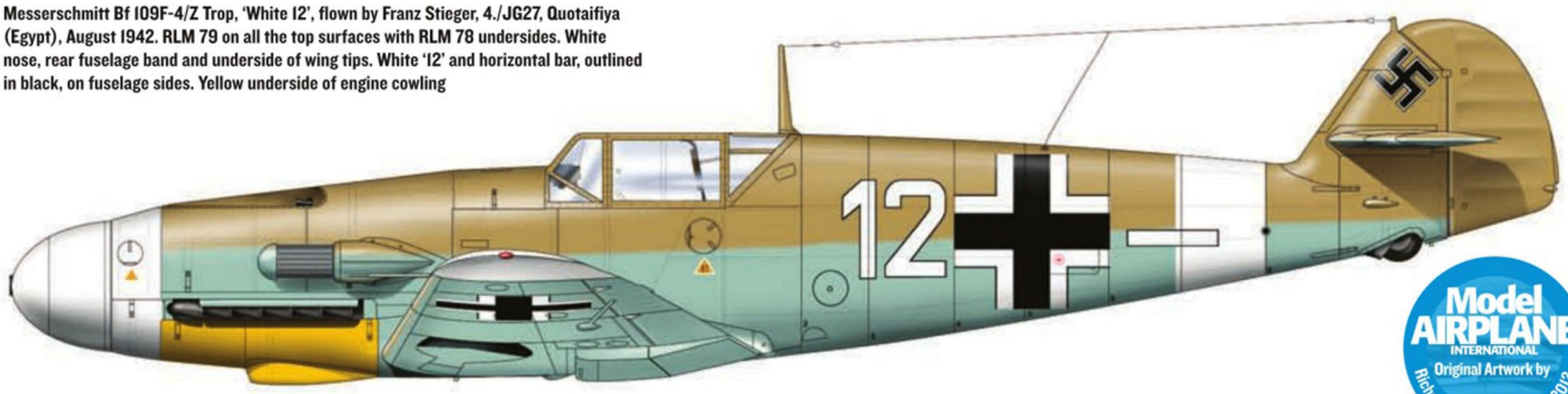


PROFILES:1/48 SCALE

Messerschmitt Bf 109F-4./Trop, 'Yellow 1', flown by Oblt Rudolf Sinner, 6./JG27, Tmimi (Libya), 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and underside of wing tips. Yellow '1' and bar outlined in black. Six victory markings on rudder



Messerschmitt Bf 109F-4/Z Trop, 'White 12', flown by Franz Stieger, 4./JG27, Quotaifiya (Egypt), August 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and underside of wing tips. White '12' and horizontal bar, outlined in black, on fuselage sides. Yellow underside of engine cowling



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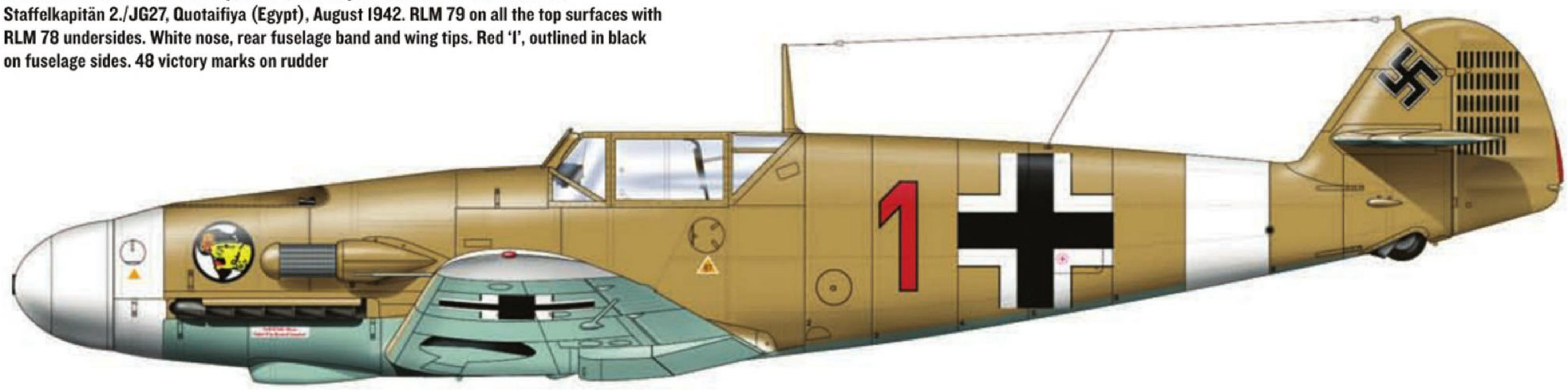
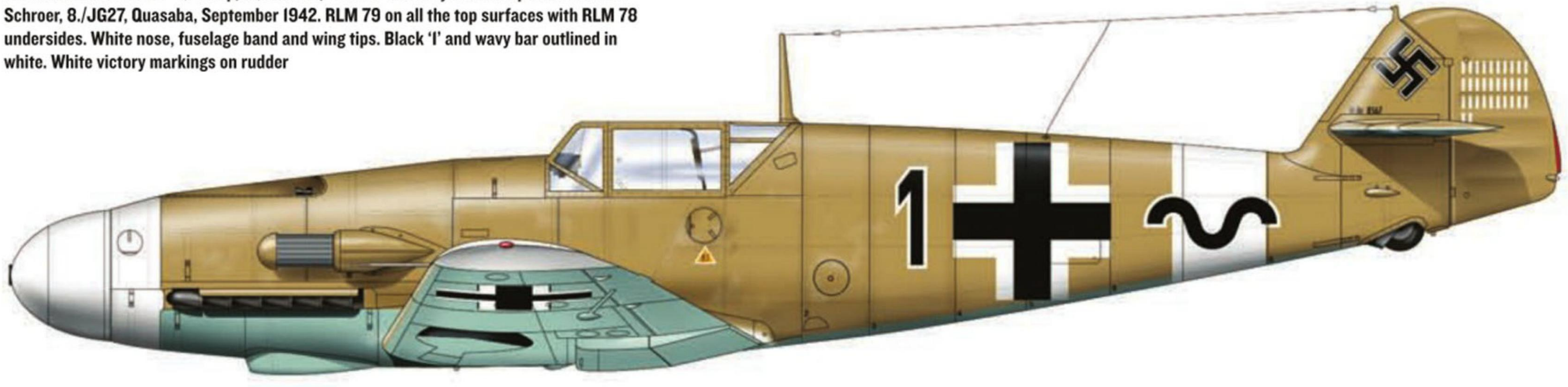
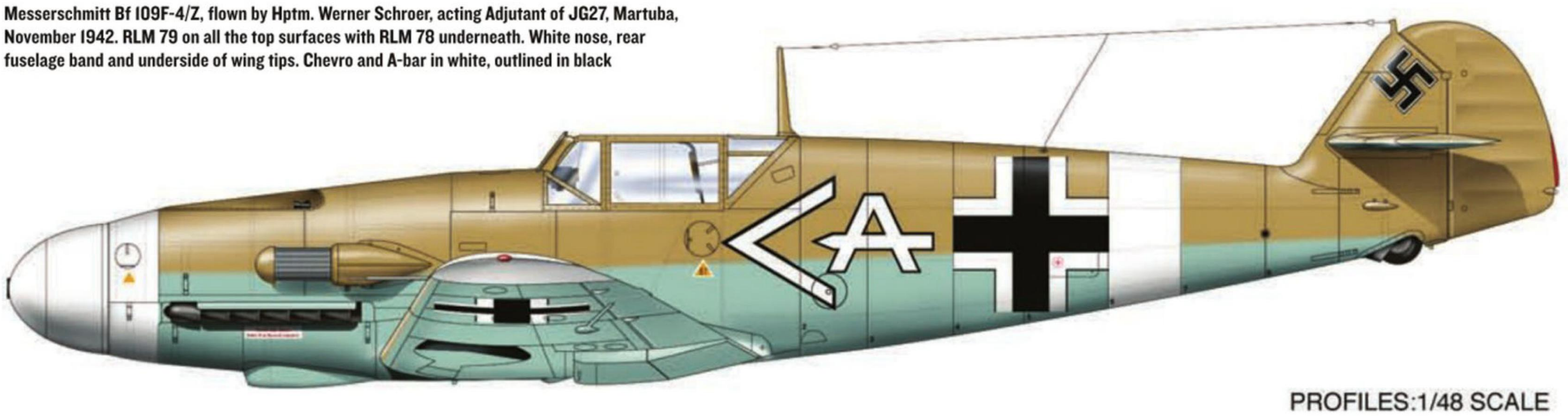
Messerschmitt Bf 109F-4/Z Trop, 'Red 1', flown by Lt Hans-Arnold Stahischmidt, Staffelkapitän 2./JG27, Quotaifiya (Egypt), August 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and wing tips. Red '1', outlined in black on fuselage sides. 48 victory marks on rudder



Messerschmitt Bf 109F-4/Z Trop, W/Nr.8567, 'Black 1' flown by Staffelkapitän Lt Werner Schroer, 8./JG27, Quasaba, September 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, fuselage band and wing tips. Black '1' and wavy bar outlined in white. White victory markings on rudder



Messerschmitt Bf 109F-4/Z, flown by Hptm. Werner Schroer, acting Adjutant of JG27, Martuba, November 1942. RLM 79 on all the top surfaces with RLM 78 underneath. White nose, rear fuselage band and underside of wing tips. Chevro and A-bar in white, outlined in black



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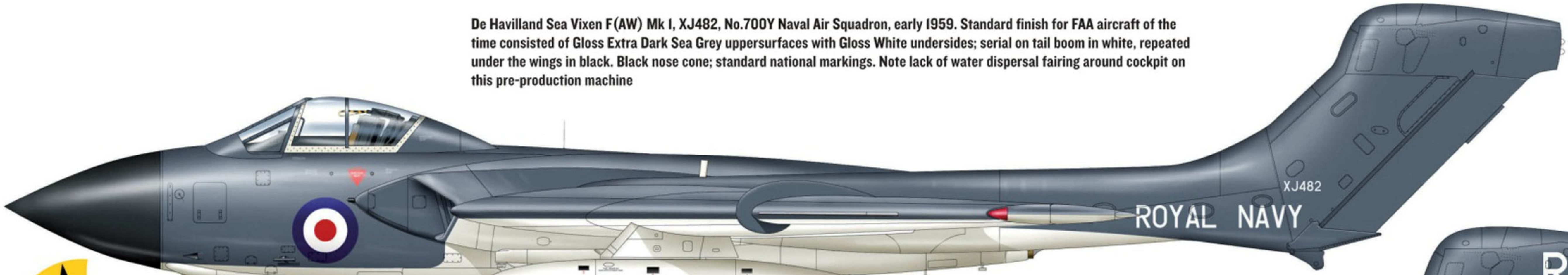
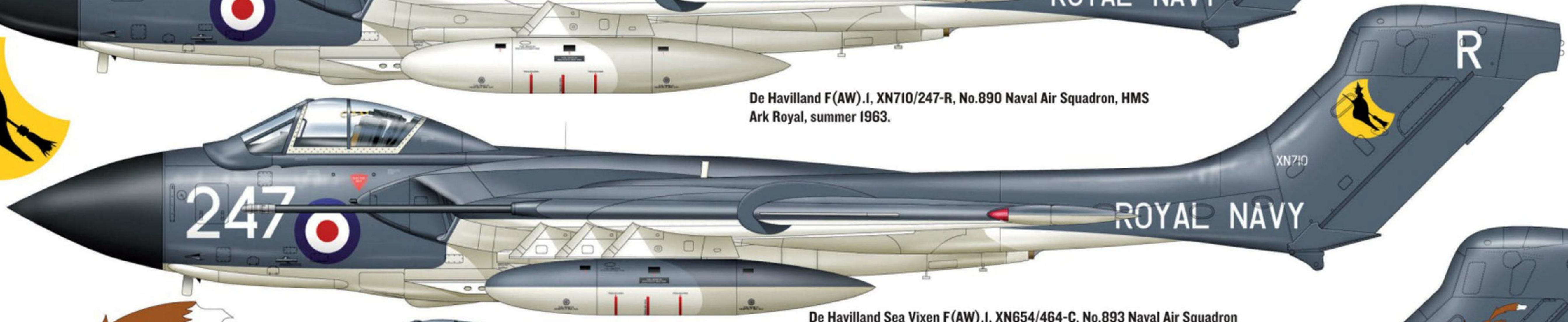
# ANTI-CAMOUFLAGE -3

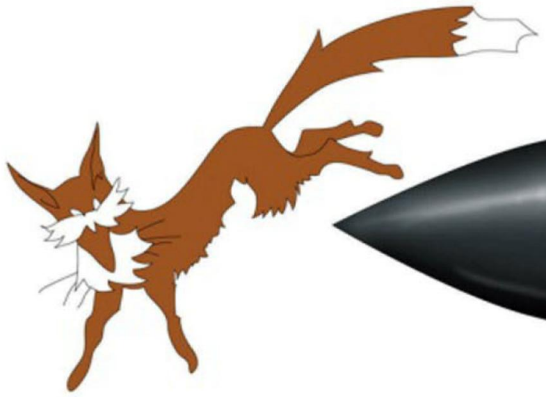
A-7E Corsair II, 158825, Hellenic Air Force, in a special 'Tiger' scheme as it appeared at RIAT 2006.
Although a special version of this aircraft, the A-7H, was purposely built for Greece, this example comes from an additional consignement of A-7Es acquired later and is recognisable from the USN-style refuelling probe on the starboad side of the fuselage

De Havilland Sea Vixen F(AW) Mk I, XJ482, No.700Y Naval Air Squadron, early 1959. Standard finish for FAA aircraft of the time consisted of Gloss Extra Dark Sea Grey uppersurfaces with Gloss White undersides; serial on tail boom in white, repeated under the wings in black. Black nose cone; standard national markings. Note lack of water dispersal fairing around cockpit on this pre-production machine

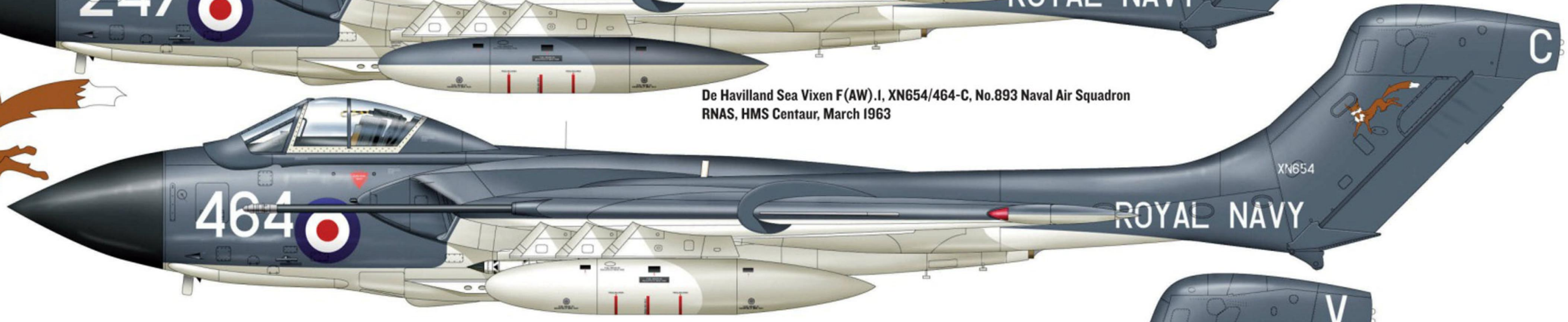


De Havilland F(AW).I, XN710/247-R, No.890 Naval Air Squadron, HMS Ark Royal, summer 1963.

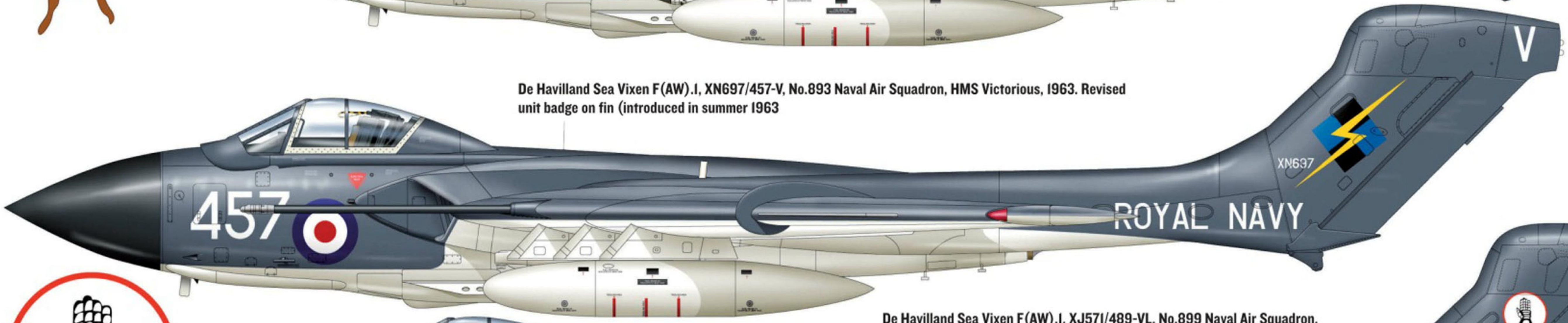


De Havilland Sea Vixen F(AW).I, XN654/464-C, No.893 Naval Air Squadron RNAS, HMS Centaur, March 1963




De Havilland Sea Vixen F(AW).I, XN697/457-V, No.893 Naval Air Squadron, HMS Victorious, 1963. Revised unit badge on fin (introduced in summer 1963)



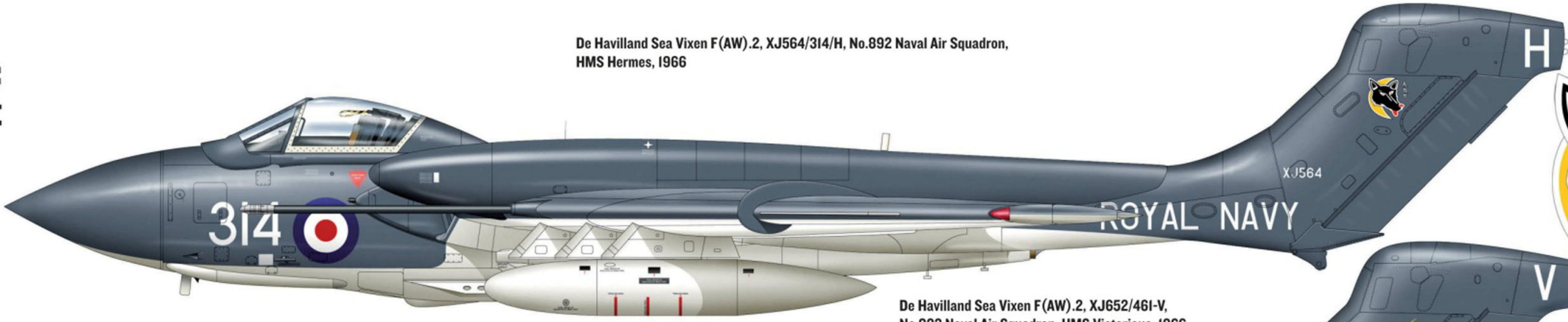
De Havilland Sea Vixen F(AW).I, XJ571/489-VL, No.899 Naval Air Squadron, Yeovilton, 1965

Profiles 1:72 Scale

0 METRES 1 2

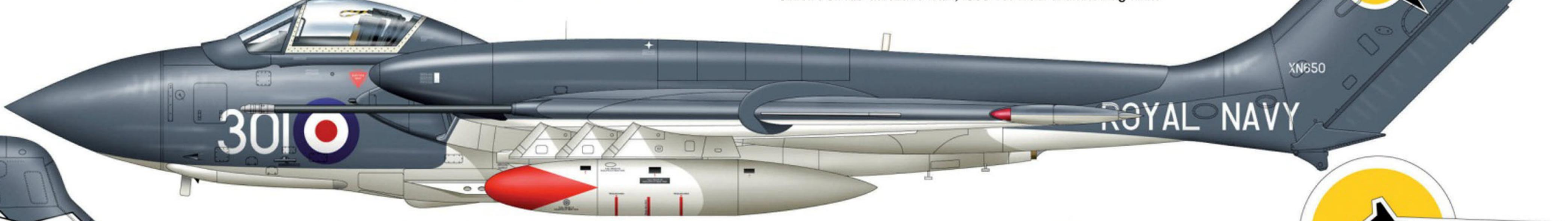
0 FEET 3 6

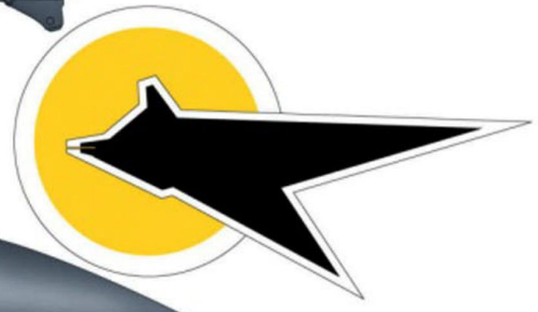
De Havilland Sea Vixen F(AW).2, XJ564/314/H, No.892 Naval Air Squadron,
HMS Hermes, 1966



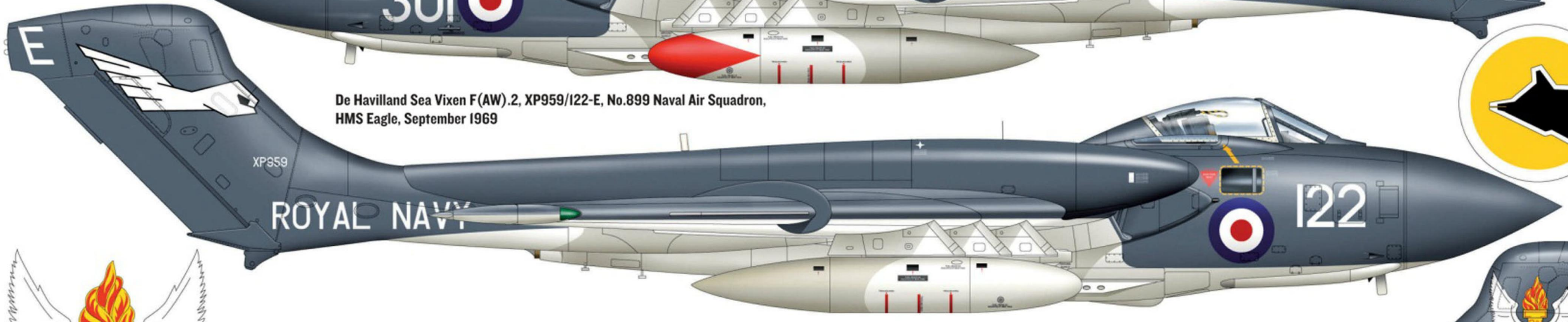
De Havilland Sea Vixen F(AW).2, XJ652/461-V,
No.893 Naval Air Squadron, HMS Victorious, 1966

De Havilland Sea Vixen F(AW).2, XN650/301-VL, No.892 Naval Air Squadron,
'Simon's Sircus' aerobatic team, 1968. red front of underwing tanks

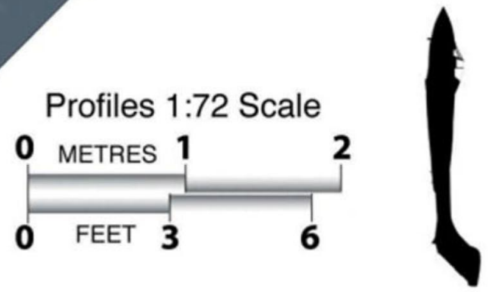


De Havilland Sea Vixen F(AW).2, XP959/122-E, No.899 Naval Air Squadron,
HMS Eagle, September 1969



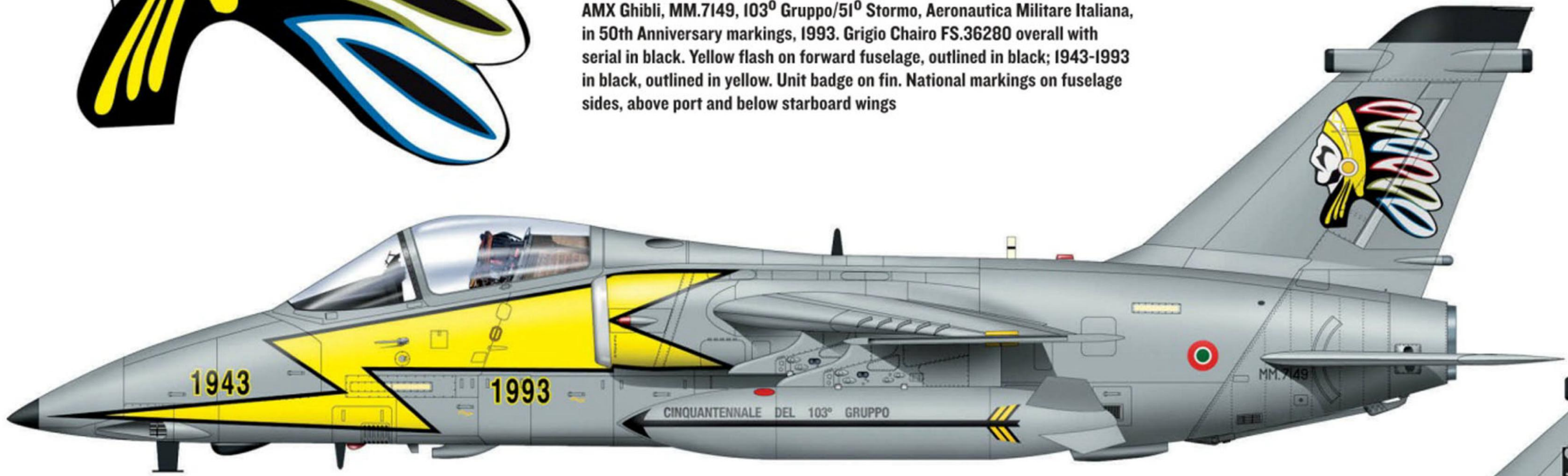
De Havilland Sea Vixen F(AW).2, XN647/707-VL, No.766 Squadron
RNAS, Yeovilton, July 1970



# GHIBLI AMX

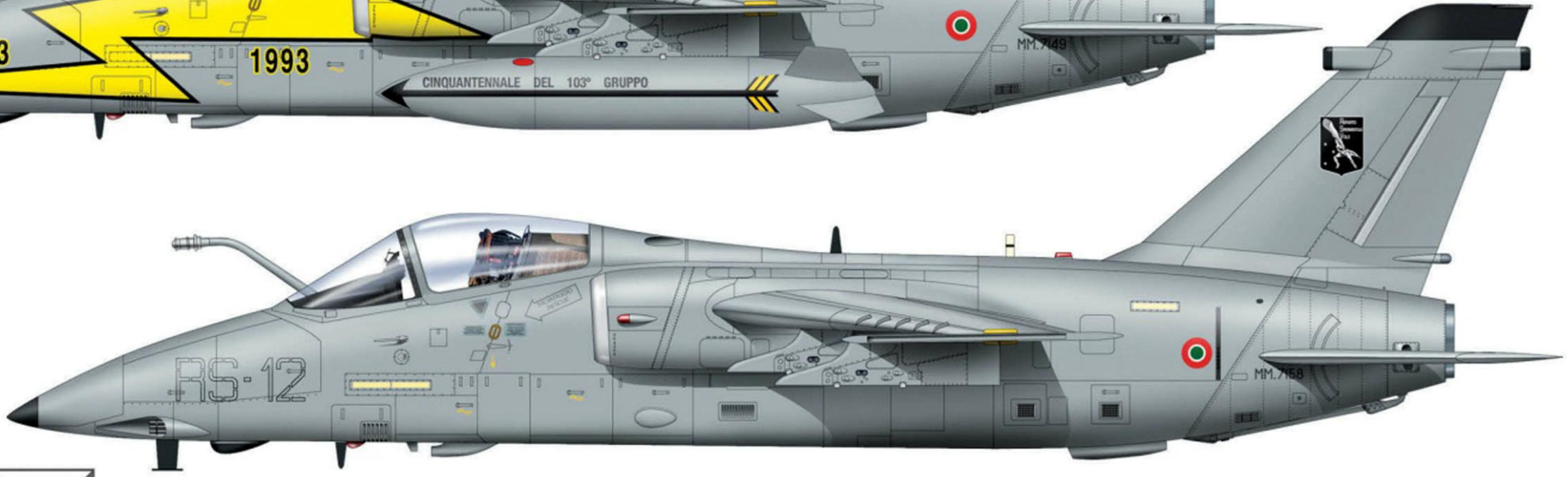
## The Hot Wind fromthe Desert

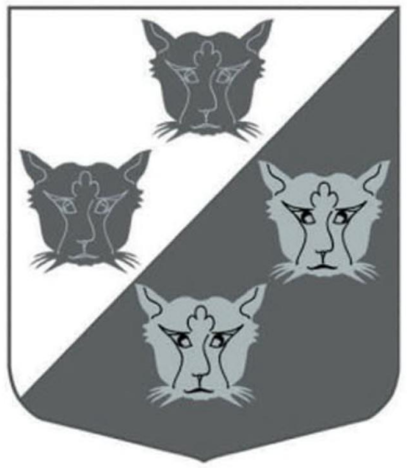
AERITALIA - AERMACCHI - EMBRAER



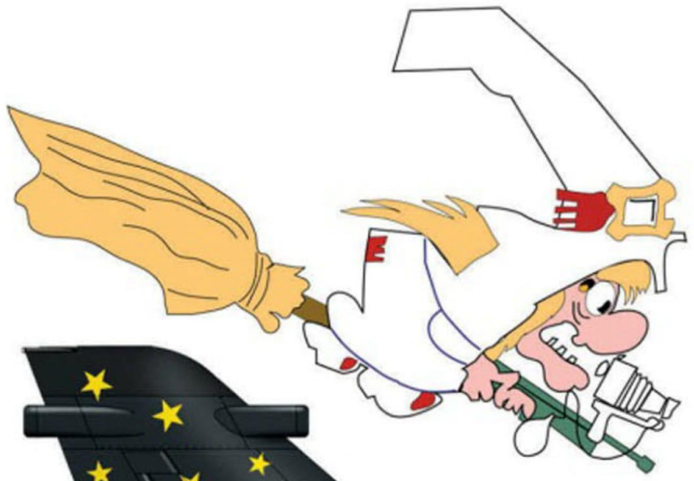

AMX Ghibli, MM.7149, 103° Gruppo/51° Stormo, Aeronautica Militare Italiana, in 50th Anniversary markings, 1993. Grigio Chairo FS.36280 overall with serial in black. Yellow flash on forward fuselage, outlined in black; 1943-1993 in black, outlined in yellow. Unit badge on fin. National markings on fuselage sides, above port and below starboard wings

AMX Ghibli, MM.7158/RS-12, Reparto Sperimentale Volo, Aeronautica Militare Italiana. Grigio Chiaro FS.36280 overall with all lettering in black. National markings on fuselage sides, above port and below starboard wings



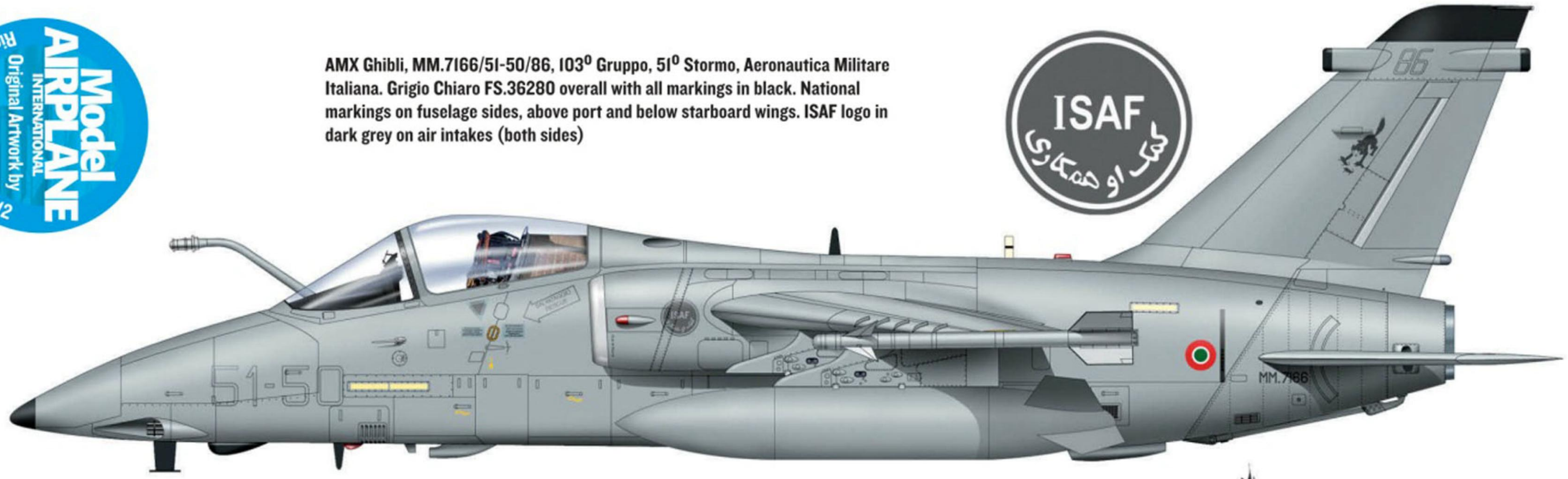


AMX Ghibli, MM.7191/3-06, 132° Gruppo, 3° Stormo, Aeronautica Militare Italiana. Grigio Chiaro FS.36280 overall with all markings in black. National markings on fuselage sides, above port and below starboard wings



Model AIRPLANE INTERNATIONAL
Original Artwork by Richard J. Caruana © MAI 2012

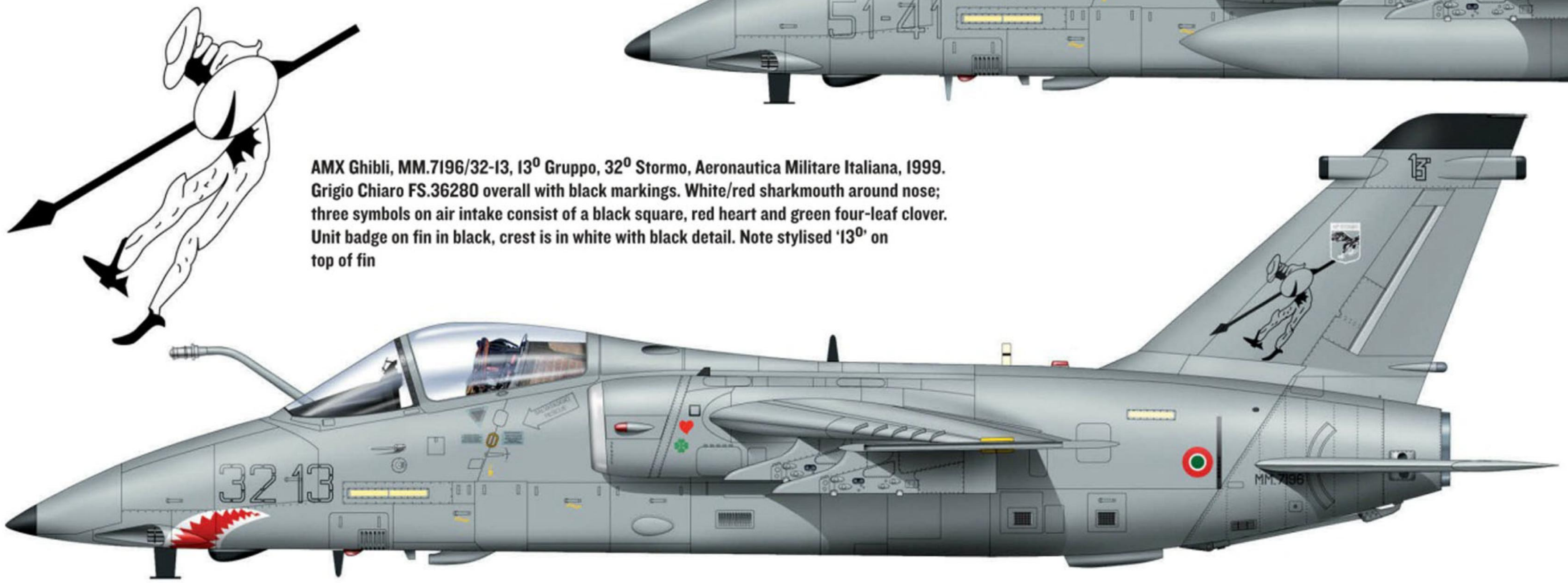
AMX Ghibli, MM.7166/51-50/86, 103$^{o}$ Gruppo, 51$^{o}$ Stormo, Aeronautica Militare Italiana. Grigio Chiaro FS.36280 overall with all markings in black. National markings on fuselage sides, above port and below starboard wings. ISAF logo in dark grey on air intakes (both sides)



Above: AMX Ghibli, MM.7122/3-32, 28$^{o}$ Gruppo, 3$^{o}$ Stormo, Aeronautica Militare Italiana, October 1995. Basic finish of Grigio Chiaro FS.36280 overall with the rear section of the aircraft painted in graduated sections of light blue, mid blue, dark blue and black vertical tail surfaces. Unit badge on fin and rudder. No national markings on fuselage sides

AMX Ghibli MM.7183/51-41/83, 103$^{o}$ Gruppo, 51$^{o}$ Stormo, Aeronautica Militare Italiana. Grigio Chiaro FS.36280 overall with all markings in black. National markings on fuselage sides, above port and below starboard wings

AMX Ghibli, MM.7196/32-13, 13$^{o}$ Gruppo, 32$^{o}$ Stormo, Aeronautica Militare Italiana, 1999. Grigio Chiaro FS.36280 overall with black markings. White/red sharkmouth around nose; three symbols on air intake consist of a black square, red heart and green four-leaf clover. Unit badge on fin in black, crest is in white with black detail. Note stylised '13$^{o}$' on top of fin




ALL PROFILES IN THIS FEATURE ARE 1:72 SCALE

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

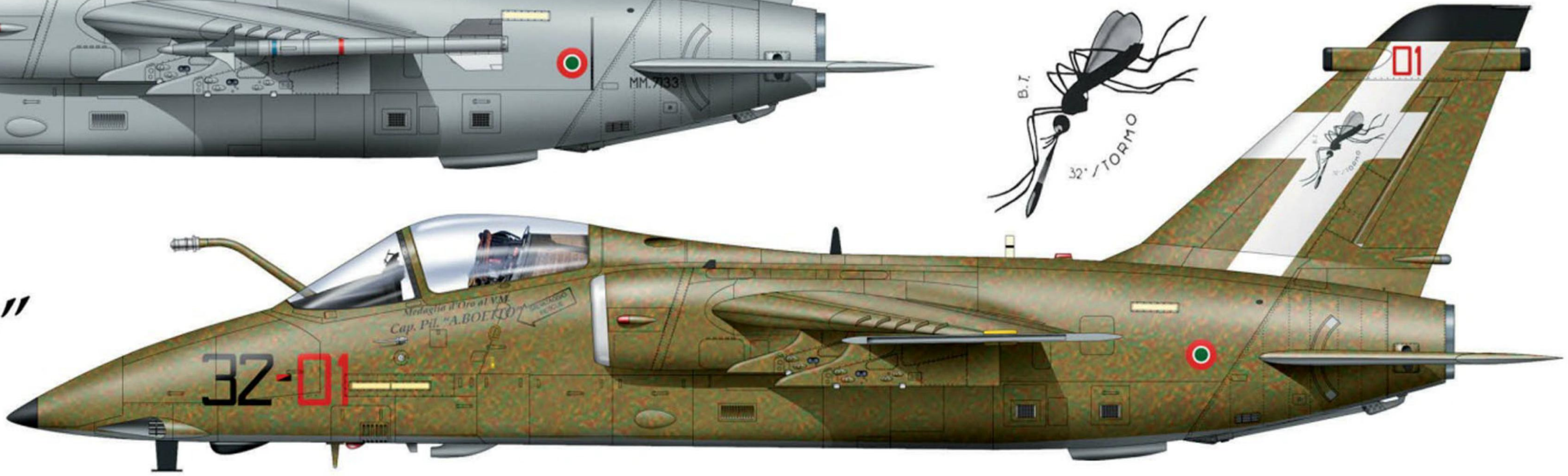
AMX Ghibli, MM.7125 (32-12), 13° Gruppo, 32° Stormo, Aeronautica Militare Italiana, 2001. Basic scheme of Grigio Chiaro FS 36280 overall with black trim to nose, underside of fuselage, wings and top of rear fuselage, blending in green trim towards the rear of the fuselage and vertical tail surfaces. Black/white sharkmouth motif, black gills. Unit badge on fin in white and black. Red heart, green four-leaf clover and black square on rudder. 10.000 hours of operations recorded on black underwing fuel tank in green

AMX Ghibli, MM7152/51•03, Indian 'I', 103° Gruppo, 51° Stormo, Aeronautica Militare Italiana, 2003. Upper surfaces in Dark Sea Grey (FS.36118) and Dark Green (FS.34079) with undersides remaining in Grigio Chiaro FS.36280. Black/yellow trim to nose and vertical tail surfaces. Codes in white; high viz roundels in usual positions. Gruppo badge on air intakes, Stormo badge on fin

Bottom: AMX Ghibli, MM.7147/32-01, 32° Stormo Anniversary markings, Aeronautica Militare Italiana, 2006. Upper surfaces in a closely mottled scheme of dark green, reddish brown and sand; undersides in Grigio Chiaro FS.36280. Codes on nose are in black and red; lettering below cockpit in black. White cross on vertical tail surfaces with unit badge superimposed and a red '01' on top. National markings on fuselage sides, above port and below starboard wings. The scheme reflects that of Armando Boetto's S.79 of the 79^ Squadriglia, shot down in action over Gibraltar on 12 June 1940

AMX Ghibli, MM.7133/51-30/33, 103° Gruppo, 51° Stormo, Aeronautica Militare Italiana, 2005. Grigio Chiaro FS.36280 overall with all markings in black, except 'Goose Bay 2005' emblem which is in red/white and black lettering. National markings on fuselage sides, above port and below starboard wings

*Medaglia d'Oro al V.M.*
*Cap. Pil. "A.BOETTO"*



AMX Ghibli, MM.7185/2-02, 14º Gruppo, 2º Stormo, Aeronautica Militare Italiana. Grigio Chiaro FS.36280 overall with all markings in black. National markings on fuselage sides, above port and below starboard wings. Note extended nose black area

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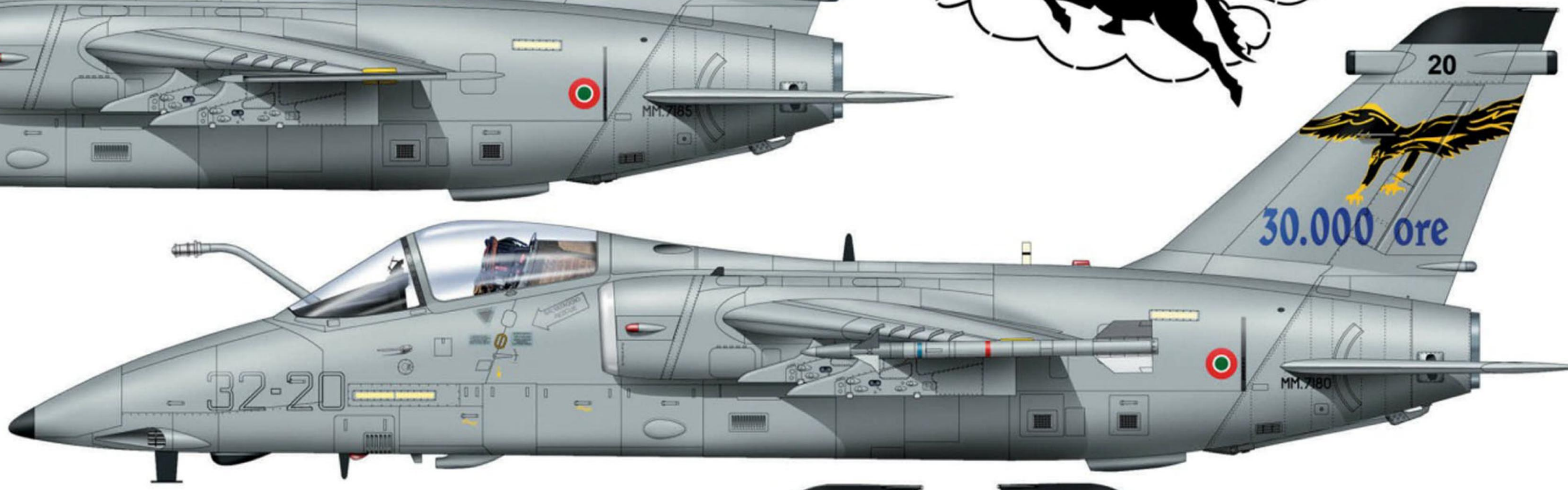


AMX Ghibli, MM.7180/32-20, 32º Stormo, Aeronautica Militare Italiana, 2010. Grigio Chiaro FS.36280 overall with all lettering in black, except the 30,000 hour marking which is blue. Unit badge on fin in yellow and black. National markings above on fuselage sides, above port and below starboard wings

AMX-T Ghibli, MM.55037/32-64, 101º Gruppo, 32o Stormo, Aeronautica Militare Italiana, 2004. Grigio Chiaro FS.36280 overall with all lettering in black. Black flash above nose; black/white vertical tail surfaces with red flash superimposed. National markings on fuselage sides, above port and below starboard wings. Note different markings on starboard side of vertical tail surfaces

AMX-T Ghibli, MM.55048/, 101 Gruppo, Aeronautica Militare Italiana, 2002. Basic scheme of Grigio Chiaro FS.36280 overall with section aft of cockpit overpainted in black, including above and below wings and tailplane. Medium blue snake with red flash and white/yellow sparks along the fuselage and fin. '10,000' in medium blue on rear section of underwing tank. Crashed in September 2007

Model AIRPLANE INTERNATIONAL
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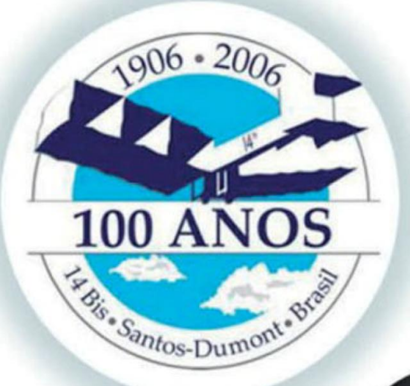
AMX A-1, 5502, 1°/16° GAv., Base Aérea de Santa Cruz (SC), Força Aérea Brasileira, 1989. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Unit badge on nose, repeated on air intakes

AMX A-1, 5542, Esq Poker, 1°/10° G.Av., Base Aérea de Santa Maria (SM), Força Aérea Brasileira, 2003. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Unit badge on rudder in red

AMX A-1, 5520, 1°/16° GAv., Base Aérea de Santa Cruz (SC), Força Aérea Brasileira, 1998. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Unit badge on nose. Black nose, wing, fin and pylon leading edges



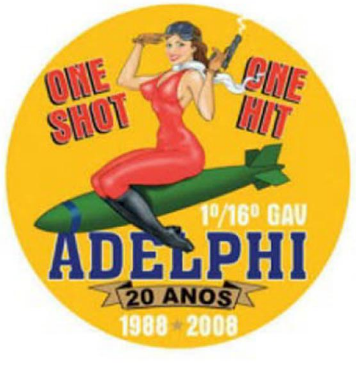
AMX A-1, 5500, 1°/16° GAv., Base Aérea de Santa Cruz (SC), Força Aérea Brasileira, 2006. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Stylised unit badge in black only on top of fin; 100th Anniversary of Santos Dumont's first flight badge on fin

AMX A-1, 5525, 1º/16º GAv., Base Aérea de Santa Cruz (SC), Força Aérea Brasileira, 1999. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Unit badge on nose with stylised version on top of fin. Black nose, wing, fin, front of external fuel tank and pylon leading edges. Brazilian flag applied on air intake for 'Red Flag 1999' exercise in the USA

WITH SPECIAL THANKS TO MARCELO RIBEIRO FOR HIS ASSISTANCE IN PROVIDING INFORMATION FOR THE PRODUCTION OF THE BRAZILIAN AIR FORCE DRAWINGS

AMX A-1A, 5531, 3º/10º GAv, Base Aérea de Santa Maria (SM), Força Aérea Brasileira, 2008. Dark green FS.34092 upper surfaces with blue-grey FS.36176 undersides; national markings in same colours, in six positions. All lettering in black. Unit badge over a black horizontal band across vertical tail surfaces, outlined in white

AMX A-1A, 5506, 1º/16º GAv, Base Aérea de Santa Cruz (SC), Força Aérea Brasileira, 2008. Dark green FS.34092 upper surfaces with blue-grey FS.36176 undersides; national markings in same colours, in six positions. All lettering in black. Unit badge in black only on rudder; 20th Anniversary badge on fin




AMX A-1B, 5659, 1º/10º GAv, Base Aérea de Santa Maria (SM), Força Aérea Brasileira, 2005. Dark green FS.34092 upper surfaces with blue-grey FS.36176 undersides; national markings in same colours, in six positions. All lettering in black. Unit badge on rudder in red with black drop shadow

AMX A-I, 5530, I$^{0}$/I0$^{0}$ GAv, Base Aérea de Santa Maria (SM), Força Aérea Brasileira. Dark green FS.34092 upper surfaces with blue-grey FS.36176 undersides; national markings in same colours, in six positions. All lettering in black. Unit badge in grey with black drop shadow on rudder

AMX A-IB, FAB 5657/Alpha 4, 3$^{0}$/I0$^{0}$ GAv, Força Aérea Brasileira, October 2005. Ocean Grey FS.35237 upper surfaces with Light Ghost Grey FS.35526 undersides; all lettering in black. National markings on fuselage sides and four wing positions. Unit badge in black on top of fin over a thin black band; 'alpha' 4 in black on nose

AMX A-IB, 5654/Beta-3, 3$^{0}$/I0$^{0}$ GAv, Força Aérea Brasileira, 2001. Experimental scheme in FS.34092 and FS.36176 upper surfaces; FS.36463 undersides; national markings in same colours, in six positions. All lettering in black. 'Beta 3' on nose in black within a black outlined rectangle

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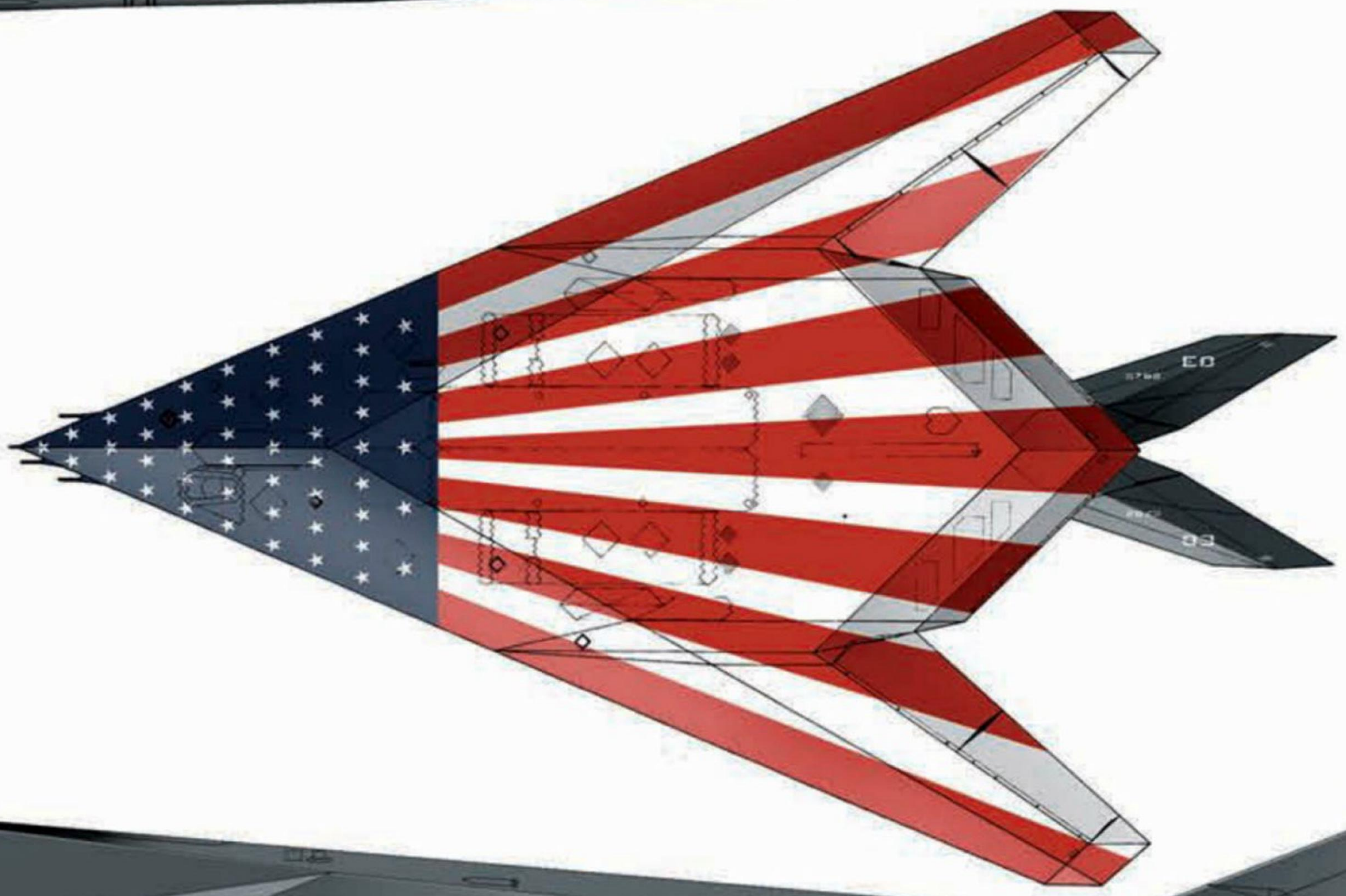
AMX A-IB, 5654, 3$^{0}$/I0$^{0}$ GAv, Força Aérea Brasileira. Dark green FS.34092 upper surfaces with blue-grey FS.36176 undersides; national markings in same colours, in six positions. All lettering in black. Unit badge on rudder in white over a black band with thin white top and bottom outlines. 30th Anniversary logo on fin



Top: F-117A, S/No. 80-0790, 'TR', 37th TFW USAF, Egling AFB, Florida, 1989. Black overall with standard national markings; red/white/black sharkmout motif on forward fuselage. Unit badge on fuselage sides

Above: F-117A, S/No. 81-10795, 'HO', 8th FS, USAF, 1991. Black overall with standard national markings. Unit badge on fuselage sides; 'Black Sheep' script on fin in yellow

Below and Right: F-117A, S/No. 79-10782, 'ED', 410 FTS 'Baja Scorpions', USAF, Edwards AFB, 2005. Black overall with standard national markings; underside painted in 'stars and stripes' scheme

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# HISTORICAL FEATURE
# THE DOUGLAS INVADER

FAR LEFT: Serial 0-435762 identifies this radar-equipped Invader as an RB-26C-46-DT. It is equipped with radar pods beneath the nose and in place of the ventral gun turret (R.J. Caruana Archives)

FAR LEFT: A JD-1 Invader coded 180 visits RAF Luqa airfield, Malta. The USN had a base at Hal Far airfield a few miles south. Strangely enough this JD-1 does not feature the modified nose by has the standard glass nose of the A-26 painted over. (R.J. Caruana)

While Douglas Aircraft Company had still not begun delivery of its A-20 to the United States Army Air Corps (USAAC) work had already begun at its El Segundo plant (California) to design its successor. In autumn 1940 a team led by Edward Heinemann and Robert Donovan proposed a new twin-engine aircraft featuring a mid-mounted laminar flow wing to be powered by a pair of 2000hp Pratt & Whitney R-2800-77 radial engines.

It was immediately decided that the new aircraft would be built in two versions using essentially identical airframes except for the nose sections. One version would consist of a three-seat light bomber with a transparent nose while the second would be a two-seat nightfighter with a solid nose carrying a heavy forward-firing armament and AI (Airborne Interception) radar. Following an inspection of a mock-up in April 1941 the War Department issued a contract for the construction of two prototypes on 2nd June under the designation of XA-26-DE for the bomber and XA-26A-DE for the nightfighter versions. A third prototype was added three weeks later designated DA-26B-DE for a three-seat ground-attack aircraft housing a 75mm cannon in the nose.

Although originally Douglas planned to build the new aircraft at its Santa Monica plant the USAAF (the Air Corps had been renamed Air Force in June 1941) chose the new Douglas facilities at Long Beach (California) and Tulsa (Oklahoma) for production of the A-26. From there on, development of the new aircraft hit a number of setbacks particularly as the USAAF continued to change armament specifications, plus there was late delivery of sub components and engines and a long list of other equipment.

It therefore took 28 months from the initial conception of the programme to the first flight, which was performed by XA-26-DE S/No.41-19504 on 10th July 1942 by test pilot Ben O. Howard. Engines fitted on the prototype were R-2800-27s and performance and handling were found to be excellent. This aircraft was joined by the other two prototypes during the flight test programme. At some stage the USAAF decided that the XA-26A-DE was no longerrequired as its role was already well covered by the Northrop P-61 Black Widow.

The first version of the Invader to leave the production line in September 1943 was the A-26B fitted with the solid nose, originallyhousing a forward-firing 75mm cannon. The forward cockpit housed the pilot and gun loader/navigator seated side by side while a gunner in the middle of the fuselage aimed his remote ventral and dorsal turrets via optical sights. Bomb load had been increased compared to that of the prototype to a total of 6,000lbs while internal fuel was also increase to 1,600 US gallons. Early production aircraft featured an additional pair of 0.50in machine guns on the left side of the nose.

Originally the A-26B was planned to have interchangeable nose sections featuring different armament configurations. However after a long series of tests the USAAF finally decided that the solid-nosed Invader was to be armed with six machine guns with 400 rounds per gun (rpg). Twin packs housing four 0.50in guns could additionally be carried below the wings. Douglas at Long Beach was assigned the construction of the first 500 examples while the Tulsa plant was also contracted to build a further 500 on 17th March 1943. Soon it transpired that this was an inefficient production arrangement and late in 1944 it was decided that the solid-nosed versions would now all be built atLong Beach while the glazed-nose version would be built at Tulsa. So much so that the after the first 205 A-26Bs were built, the Tulsa plant delivered the remainder as glazed-nose A-26Cs.

The A-26B was also to be the first version to go into action when four examples were shipped for combat trials early in May 1944 with the 13th Bombardment Squadron (BS), 3rd Bombardment Group (BG) in the South-West Pacific. The forward-firing armament was found to be insufficient in this theatre and Douglas produced a new eight-gun nose in addition to six wing-mounted 0.50in guns, features that were often retrofitted to A-26Bs already in service.

By June 1944 the Invader had also appeared in Europe where deliveries to that theatre enjoyed priority over those of the Pacific. The first combat mission from England was performed by the 553rd BS (386th BG) of the 9th Air Force based at Great Dunmow. By November the entire 416th BG of the 9th AF had converted on to A-26Bs relinquishing their A-20 Havocs. Meanwhile the 12th AF fighting on the Italian Front was also converting its 47th BG to the A-26, which thus served alongside the unit's A-20s during the closing months of the war.

Invaders continued to fly in many roles, particularly as fire-bombers, for many years while others continue to fly as warbirds to thrill crowds at air displays. 'Miss Murphy' is an A-26C original Bu.No. 44-36061 that is in airworthy condition and is displayed by the Commemorative Air Force based at Mesa, Arizona. It was here photographed at Odessa (Texas) on 10 October 1992 (R.J. Caruana)

Due to the redesign of the nose armament the A-26 saw very limited service in the Pacific with the 319th BG (7th AF) being the only unit to take it into action while two other groups (3rd and 41st) were in the process of re-equipping. Contracts for remaining A-26s still unbuilt were slashed at the end of the Second World War even though the type was chosen as the main aircraft to be used by the newly created Tactical Air Command with the grouping of surviving aircraft from the 9th and 12th Air Forces. The 3rd BGformed part of the Occupation Forces of Japan and by the time the B-26 Marauder was being retired in 1948 the Invader's designation was changed to B-26.

It was to go back into action once more in Korea. At the time the war broke out in that region the USAF had more than a thousand Invaders on its inventory, mainly stored or serving with second line units. The task of putting the Invader back into combat fell to the 3rd BG based at Johnson Air Base (AB), Japan. Missions began on the 28th June 1950 with an attack against trains carrying support to North Korean troops. The 452nd BGfrom George AFB was soon to join the fray operating both from Japan and from Pusan in South Korea. The 17th Bomber Wing (BW) as these two units were eventually redesignated, wrought havoc among ground vehicles destroying more than 18,000 of them together with 3,700 railway carriages and 406 locomotives. 56 Invaders were lost due to enemy action with some 170 others being lost due to other causes.

The opening phases of the Vietnam war proved catastrophic for the surviving B-26Bs and B-26Cs due to wing failures both as a result of their age and also due to ever-increasing loads for which the airframe was not designed to withstand. The value of such a nimble twin-engine aircraft however, could not be overlooked and On Mark Engineering Co of Van Nuys (California)were contracted to rebuild a number of Invaders as B-26Ks specially designed and equipped for the counter-insurgency role. Deliveries began in June 1964 and the new aircraft went to equip the 603rd Special Operations Squadron (SOS) and the 606th Air Commando Squadron (ACS, later 609th SOS).

The US Navy also operated a number of Invaders suitably converted for specific roles. Just after the end of the Second World War 150 surplus A-26s were acquired mainly for target-tug duties. These included a small lot that had originally been ordered by the Royal Air Force (RAF) butnever taken on strength. Designated JD-1, the type was operated by US Navy utility squadrons. Apart from target-tug duties they were also employed as drone directors (JD-1D) and general utility aircraft.

Foremost among foreign operators of the Invader was the Armée de l'Air (AdeA), which began to acquire the type early in 1951. With over 200 examples on its book the AdeA operated its Invaders on two distinct fronts:Indochina and Europe/North Africa. The first aircraft to be acquired from ex-USAF stocks were seventeen B-26Bs and B-26Cs that were ferried to Indochina immediately after a short training period on the type in the US. By 1st February 1951 they were already in action and additional aircraft were supplied in 1954, though this latter consignment remained on USAF charge and were also serviced by US ground crews. The French Invaders arrived in Europe in July 1951 and most of these had to sent over to Algeria were an uprising had erupted in March 1954 and they were mostly used for bombing ground targets. Portugal, too, had to fight its colonial wars although the contribution of the Invader to the Portuguese Air Force was a modest seven aircraft in total.

It was however Turkey that had sought to acquire the first Invaders from the US, totalling 45 examples of both B-26B and B-26C. Four aircraft were supplied to Mexico, the first of a host of Central and South American countries that included Peru, Chile, Columbia, Cuba, Brazil, Dominican Republic, Guatemala, Nicaragua, El Salvador, and Honduras.

Last, but not least, one must mention the Invader's contribution in civilian hands as a fire-bomber where its performance, combined with the skill and courage of its pilots fighting forest fires turned it into a living legend as recounted in a number of movies. These years of faithful service were instrumental in ensuring a long and impressive list of survivors, especially as warbirds, providing enthusiasts with an opportunity to admirethis iconic aircraft either on the ground in numerous museums or in the airwhere it truly belongs. ■

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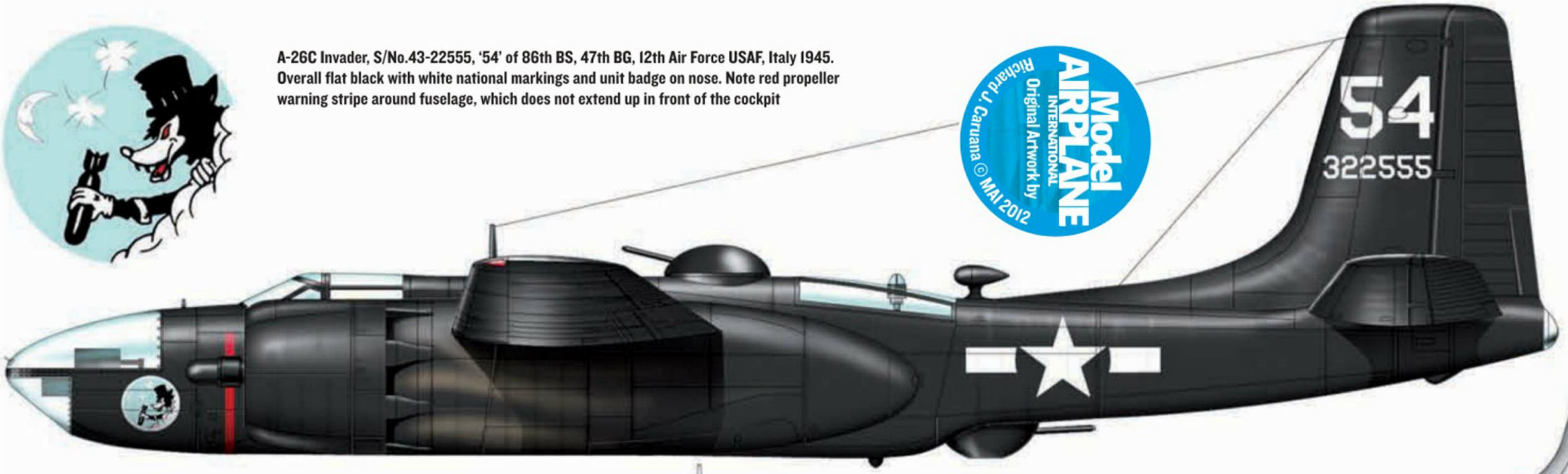
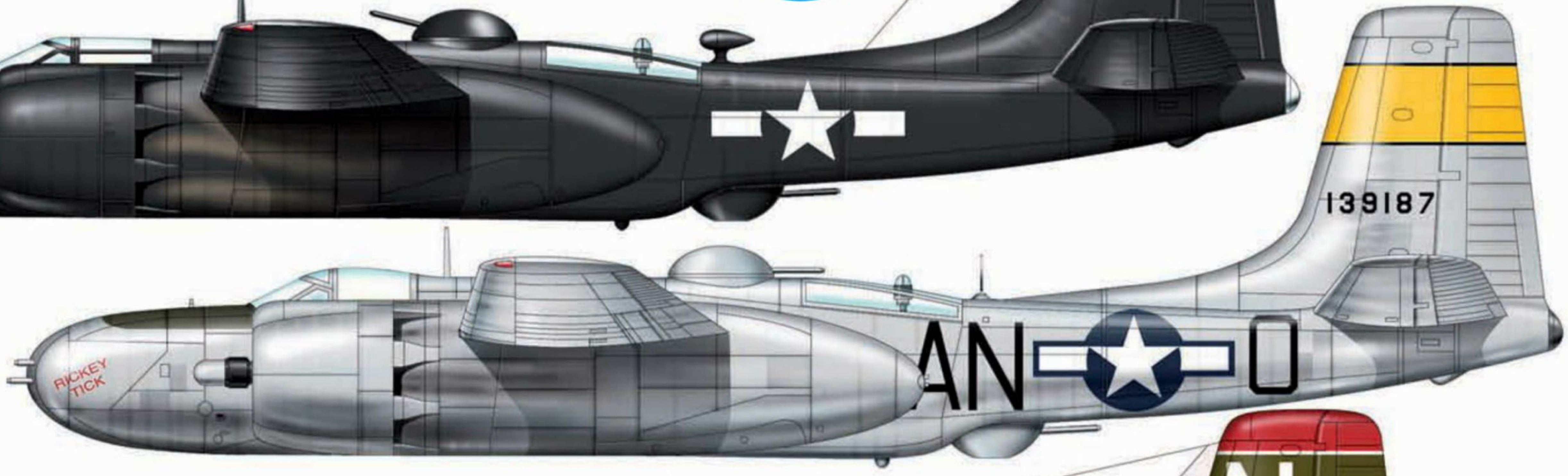
Invader 44-35457/K/P is an Armée de l'Air RB-26C during its service with GB.2/91. It is here seen at Gibraltar staging through during a ferry flight to or from North Africa some time in 1962 (R.J. Caruana)

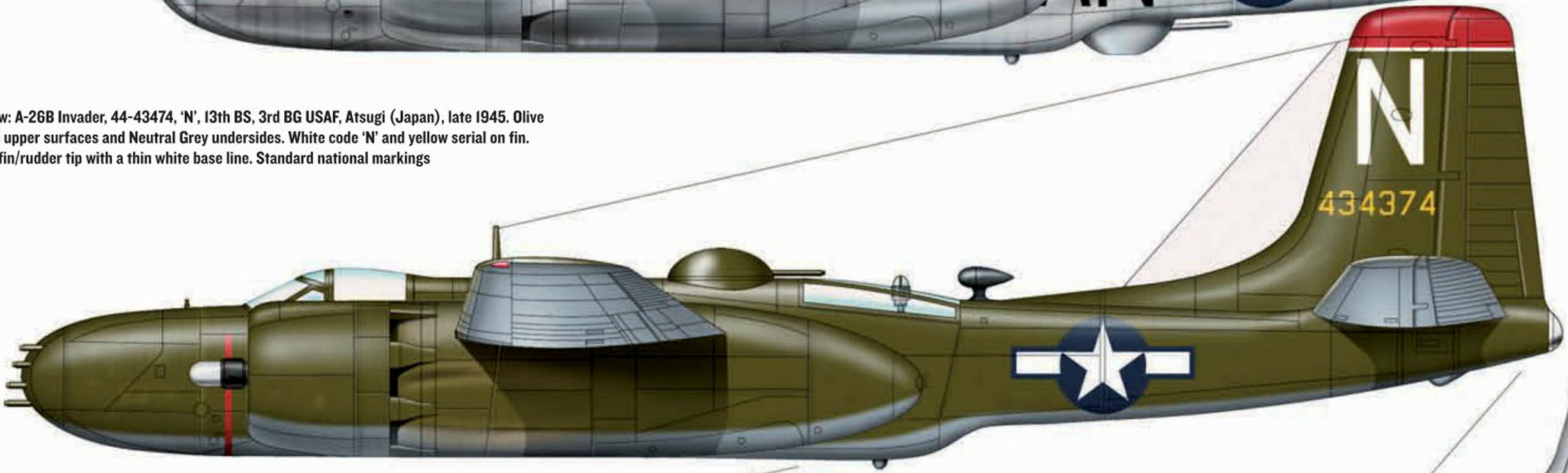
A-26C Invader, S/No.43-22555, '54' of 86th BS, 47th BG, 12th Air Force USAF, Italy 1945. Overall flat black with white national markings and unit badge on nose. Note red propeller warning stripe around fuselage, which does not extend up in front of the cockpit

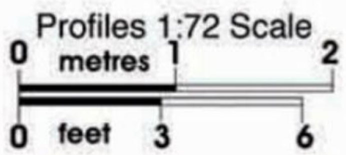



Below: A-26B-15DL Invader, 'Rickey Tick', S/No.41-39187, AN-O, 386th BG, 553rd BS, 9th Air Force USAF, late 1944. Natural metal overall with Olive Drab anti-dazzle panel, and Insignia Yellow bar on the fin edged in Black. All serials and codes are in black

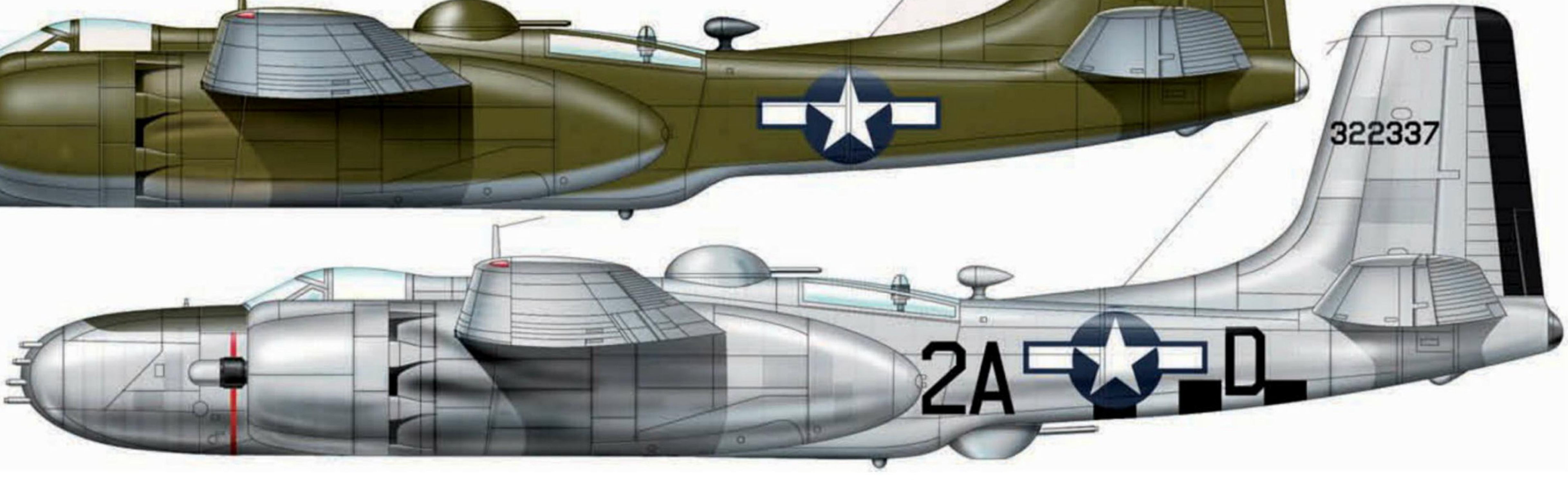



Below: A-26B Invader, 44-43474, 'N', 13th BS, 3rd BG USAF, Atsugi (Japan), late 1945. Olive Drab upper surfaces and Neutral Grey undersides. White code 'N' and yellow serial on fin. Red fin/rudder tip with a thin white base line. Standard national markings

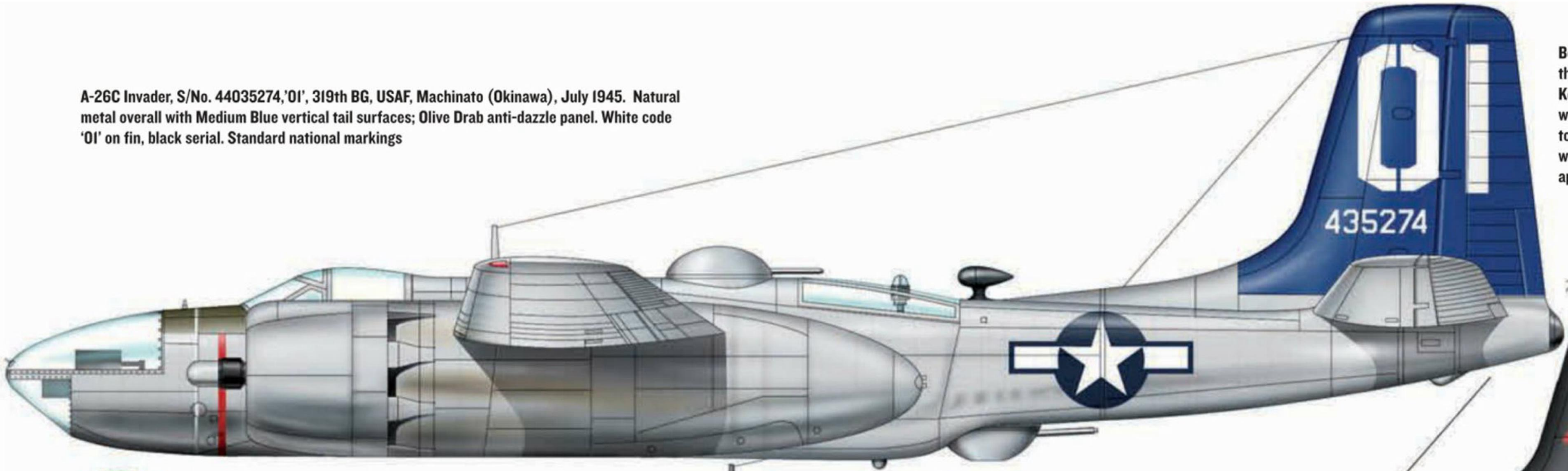


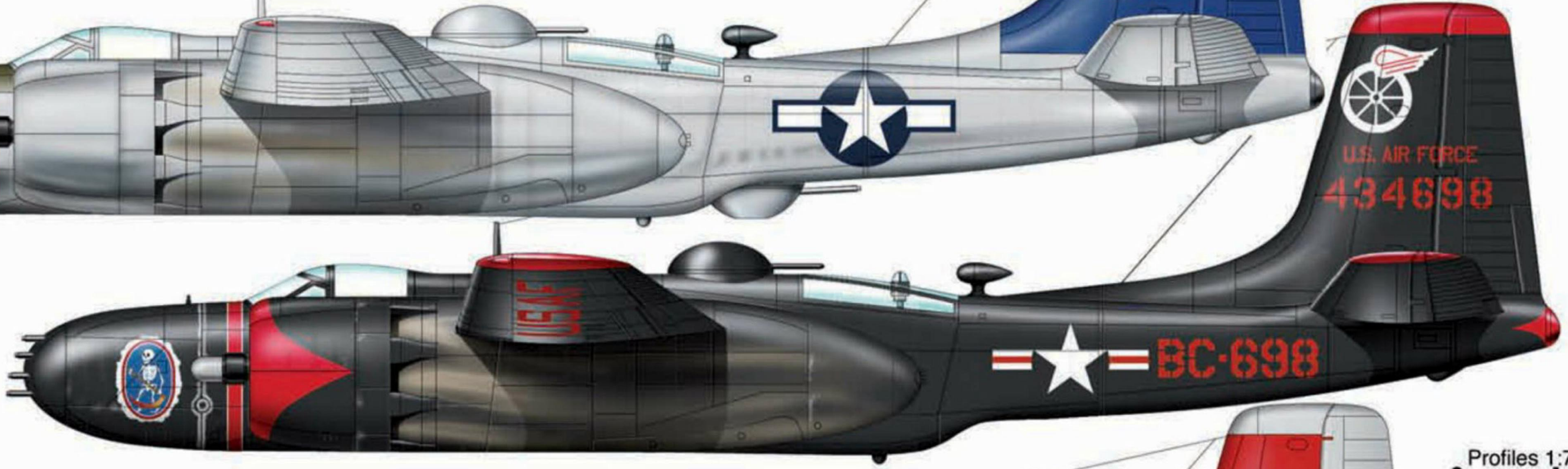

A-26C, S/No.22337, 2A-D, of the 669th BS, 416th BG, 9th Air Force USAF, January 1945. Natural metal overall with Olive Drab anti-dazzle panel ahead of the cockpit. Squadron colour black painted on rudder trailing edge. Black/white invasion stripes applied under fuselage only



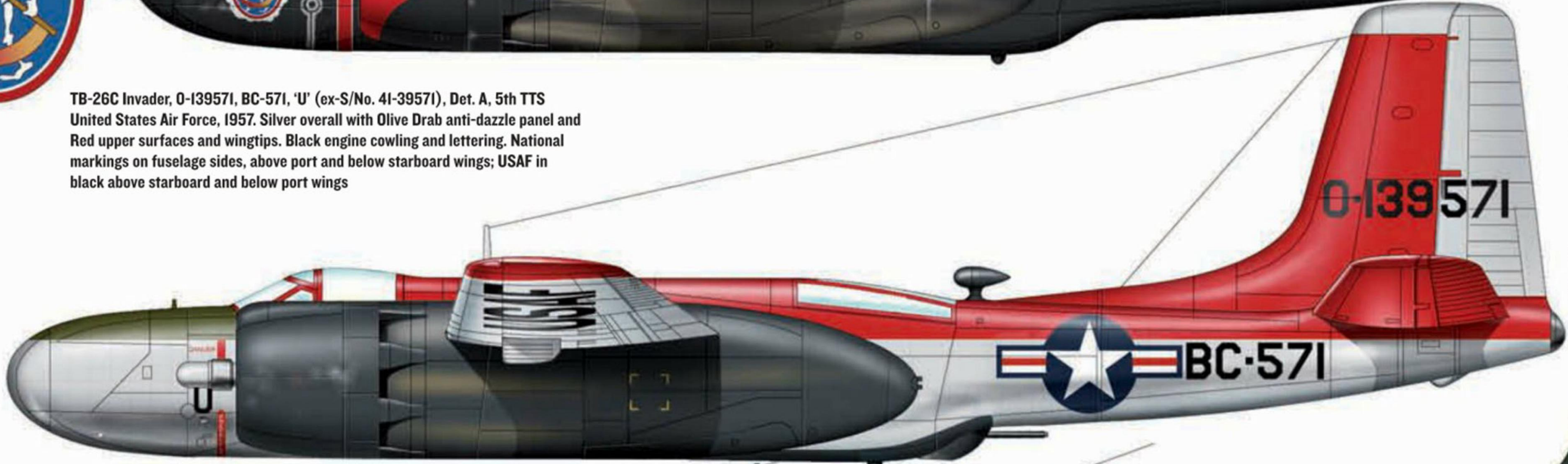
A-26C Invader, S/No. 44035274,'01', 319th BG, USAF, Machinato (Okinawa), July 1945. Natural metal overall with Medium Blue vertical tail surfaces; Olive Drab anti-dazzle panel. White code '01' on fin, black serial. Standard national markings




Below: B-26B Invader, S/No. 434698, BC-698 flown by the Commanding Officer of 13th BS based at Kunsan, Korea, 1952. Black overall with red engine nacelle trim, wingtips, elevator tips, fuselage rear end and fin/rudder top. All serials and codes are also in red, as is the prop warning stripe, which is outlined in white. USAF in red appears on top of stbd wing and under port wing




TB-26C Invader, 0-139571, BC-571, 'U' (ex-S/No. 41-39571), Det. A, 5th TTS United States Air Force, 1957. Silver overall with Olive Drab anti-dazzle panel and Red upper surfaces and wingtips. Black engine cowling and lettering. National markings on fuselage sides, above port and below starboard wings; USAF in black above starboard and below port wings

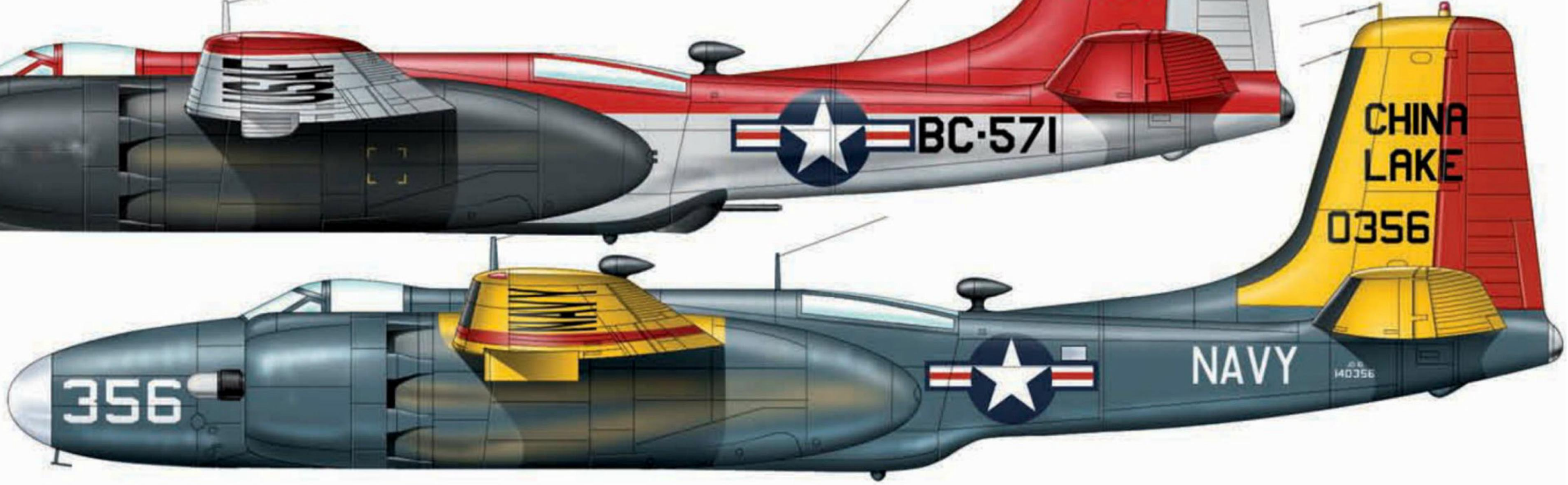



Profiles 1:72 Scale

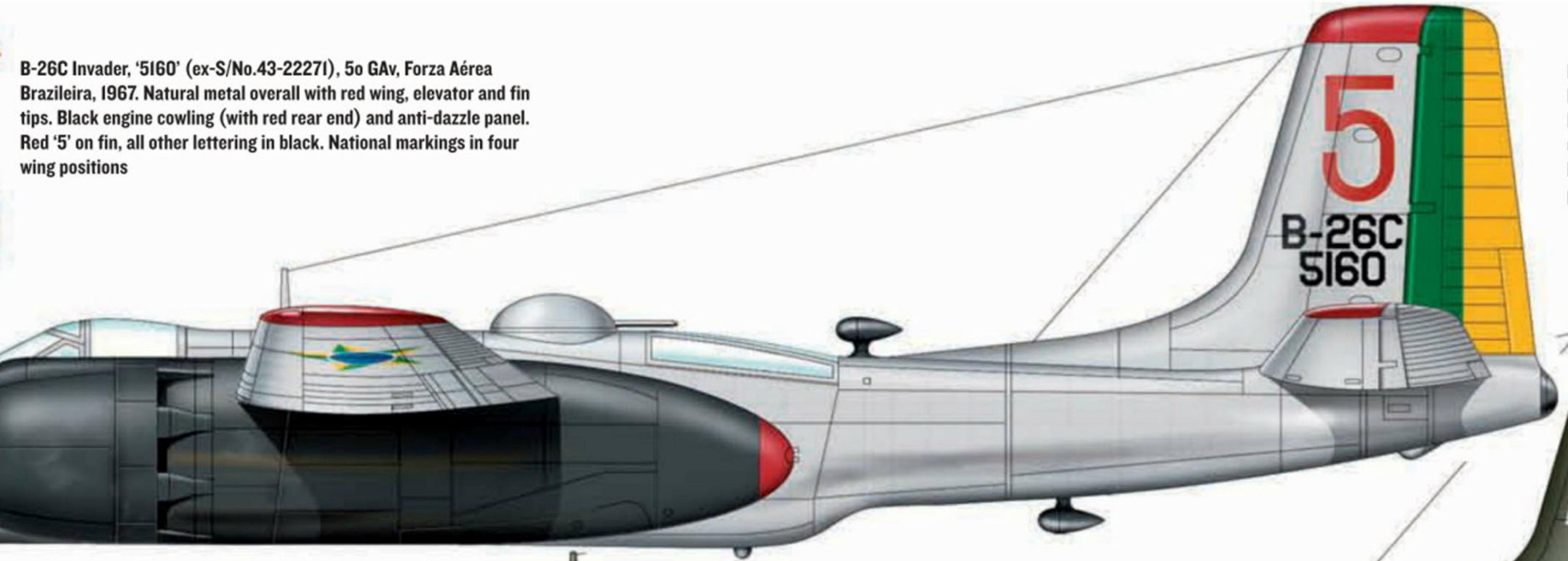
0 metres 1 2

0 feet 3 6

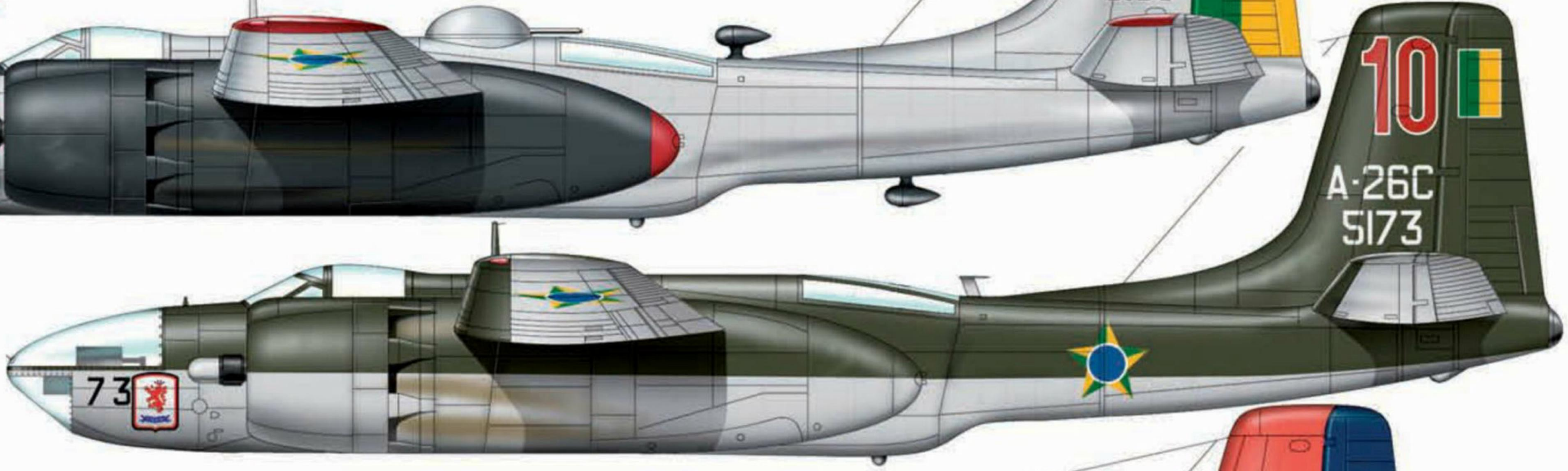
Naval Air Facility JD-1D Invader (Jig Dog), S/No.41-40356, United States Navy, Armitage Field, China Lake, 1958. Engine Grey overall with yellow wings, tailplane and fin; red rudder and chordwise bands around wings. Lettering on vertical tail surfaces in black; lettering on fuselage in white. National markings on fuselage sides, above port and below starboard wings. 'Navy' in black above starboard and below port wings



B-26C Invader, '5160' (ex-S/No.43-22271), 5o GAv, Forza Aérea Brazileira, 1967. Natural metal overall with red wing, elevator and fin tips. Black engine cowling (with red rear end) and anti-dazzle panel. Red '5' on fin, all other lettering in black. National markings in four wing positions

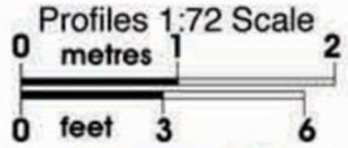


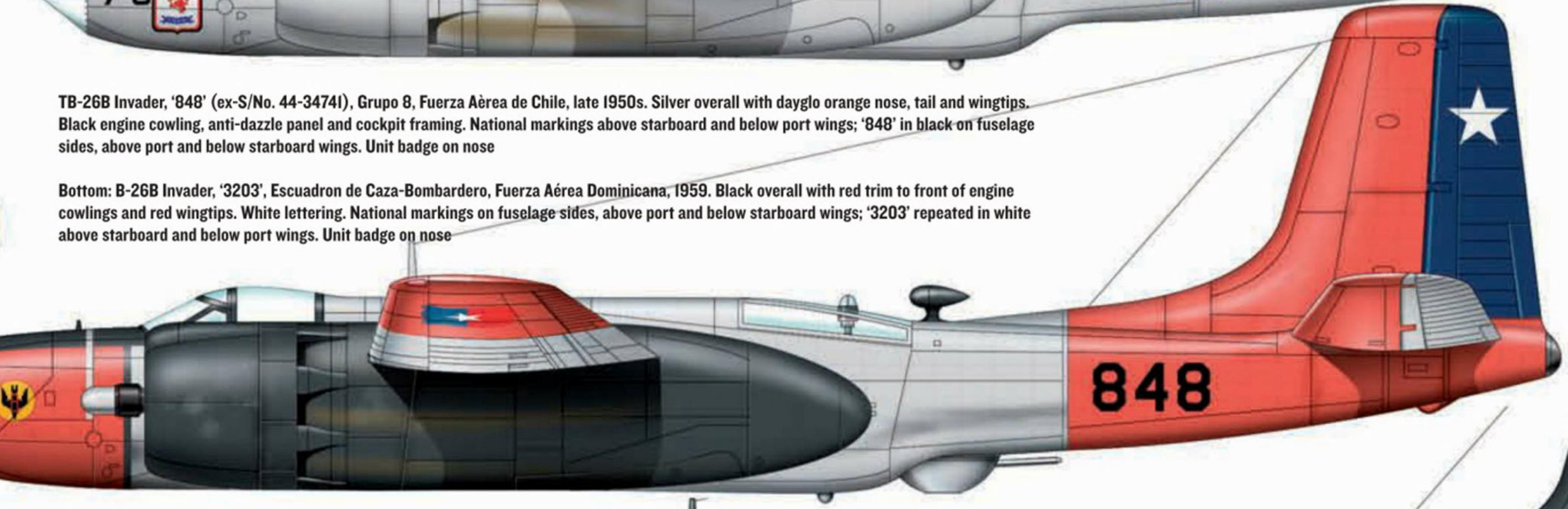

Below: A-26C Invader, '5173' (ex-S/No. 44-34615 & N4817E), 1o/10o GAv, Fuerza Aérea Brasileira, 1972. Dark Olive Green upper surfaces with Light Grey undersides. '10' on fin in red, outlined in white, lettering on fin in white. National markings in six position. Unit badge on nose




TB-26B Invader, '848' (ex-S/No. 44-34741), Grupo 8, Fuerza Aèrea de Chile, late 1950s. Silver overall with dayglo orange nose, tail and wingtips. Black engine cowling, anti-dazzle panel and cockpit framing. National markings above starboard and below port wings; '848' in black on fuselage sides, above port and below starboard wings. Unit badge on nose

Bottom: B-26B Invader, '3203', Escuadron de Caza-Bombardero, Fuerza Aérea Dominicana, 1959. Black overall with red trim to front of engine cowlings and red wingtips. White lettering. National markings on fuselage sides, above port and below starboard wings; '3203' repeated in white above starboard and below port wings. Unit badge on nose





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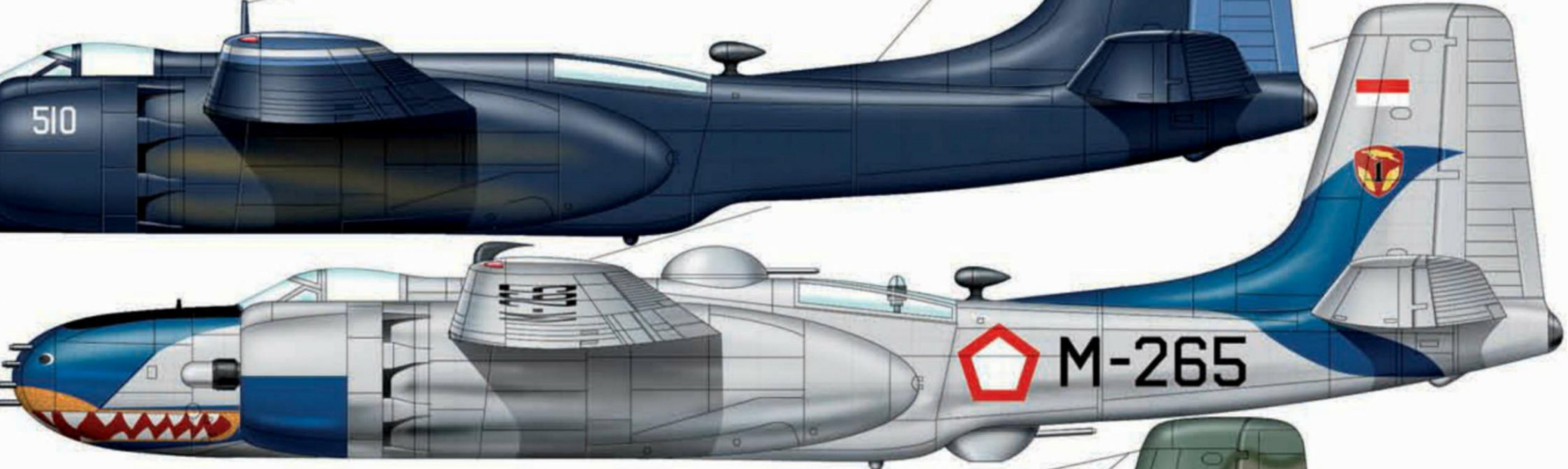
Original Artwork by Richard J Caruana © MAI 2012

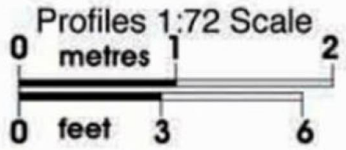
B-26B Invader, '510' (ex-S/No. 44-35918), Fuerza Aérea Hondureña, 1969. Midnight Blue overall with 'sharkmouth' motif around nose in red, white and black. Lettering in white; light blue/white/light blue wingtip bands (above and below)

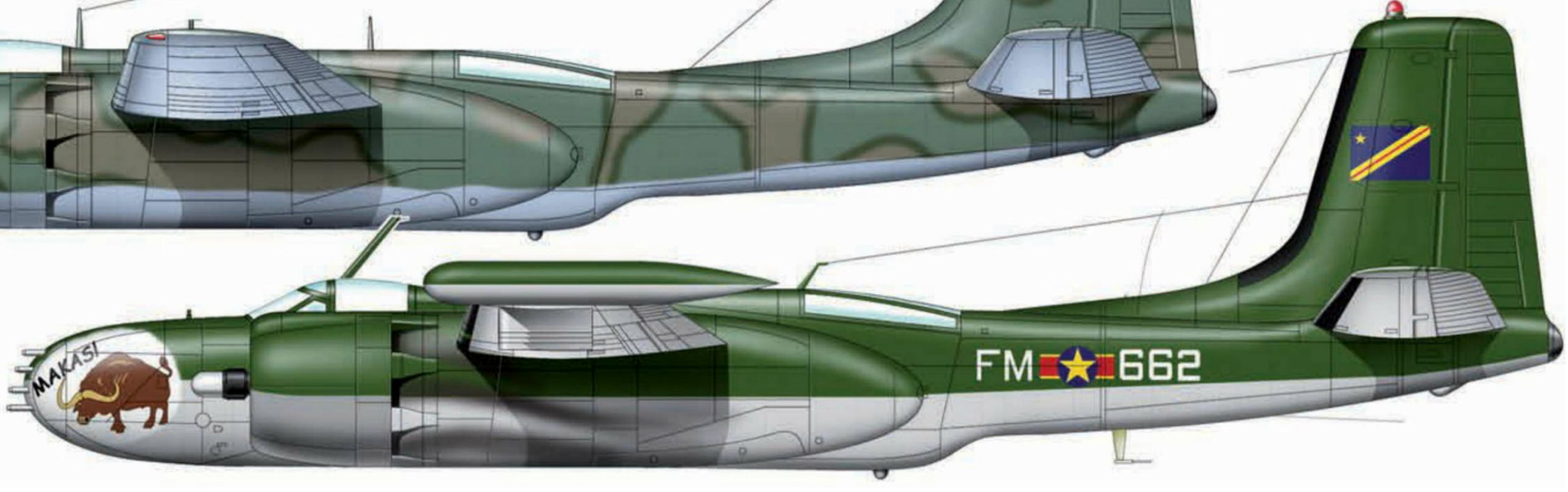
Below: B-26B Invader, 'M-265', Skadron Udara 1, Indonesian Air Force, mid-1970s. Natural metal overall with mid-blue trim to nose, tail and underside of engine cowlings; red/white sharkmouth and 'lips' in yellow with small white polka dots. Lettering in black. National markings on fuselage sides, above port and below starboard wings. Serial repeated above starboard and below port wings, also in black

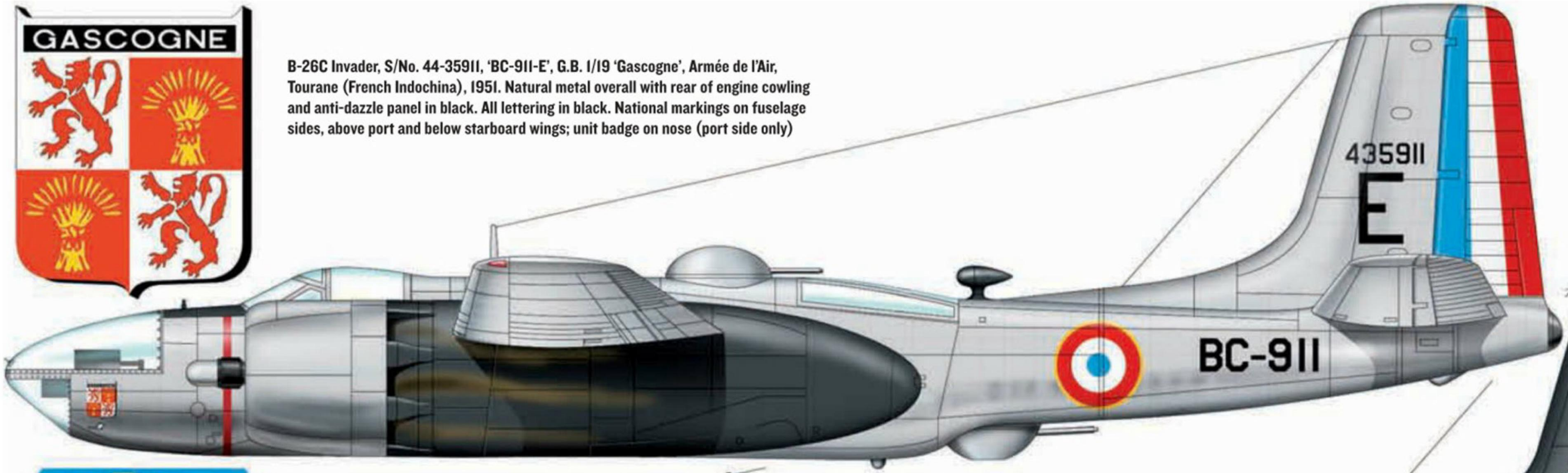



Below: B-26R Invader, S/No. 41-39531 (ex-French Air Force Centre d'Essai en Vol), Biafran Air Force, deivered in 1967. Olive green and earth, with a dark olive green separation line on the upper surfaces; light blue undersides. Sharkmouth motif around nose. Uncofirmed sources claim that this aircraft later received an all-black finish

Bottom: CIA B-26K Invader, 'FM-662' "Makasi", marked as an aircraft of 21st Escadrille, 21st Wing, 2nd Groupement, Force Aèrienne Congolese, Albertville (Congo), 1966, flown by Cuban pilots. Medium Olive Green upper surfaces and light grey undersides; black leading edges to wings, elevators and fin. '662' is repeated in black on nosewheel doors



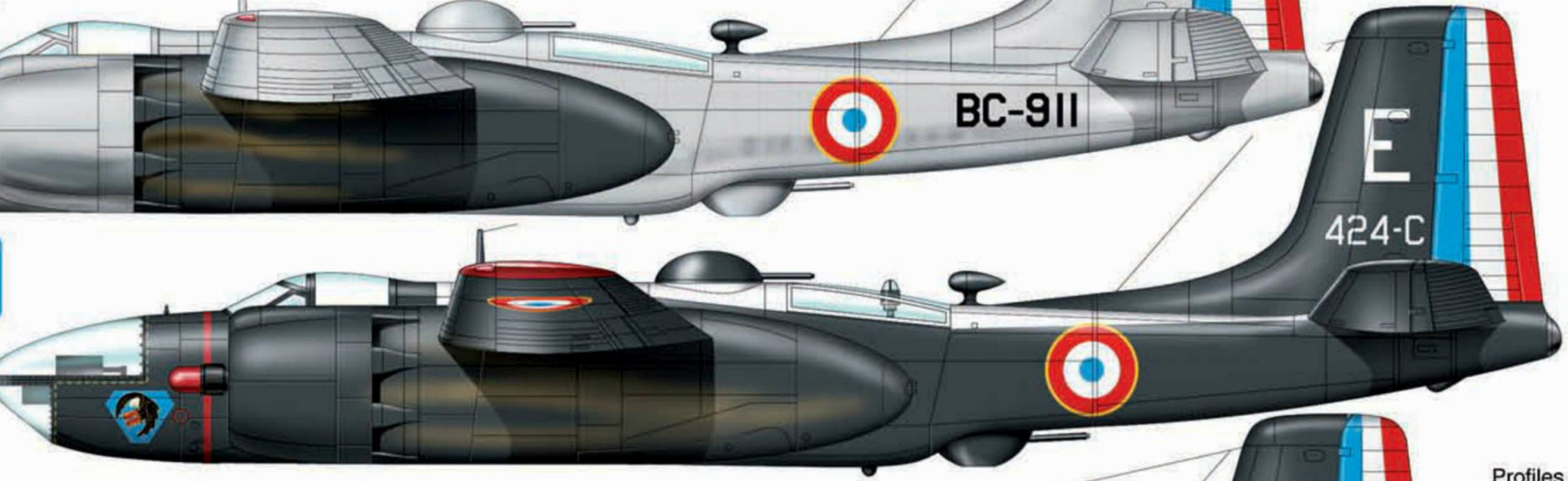





B-26C Invader, S/No. 44-35911, 'BC-911-E', G.B. 1/19 'Gascogne', Armée de l'Air, Tourane (French Indochina), 1951. Natural metal overall with rear of engine cowling and anti-dazzle panel in black. All lettering in black. National markings on fuselage sides, above port and below starboard wings; unit badge on nose (port side only)

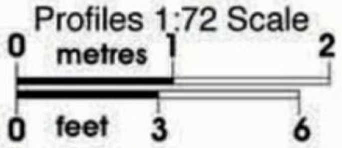


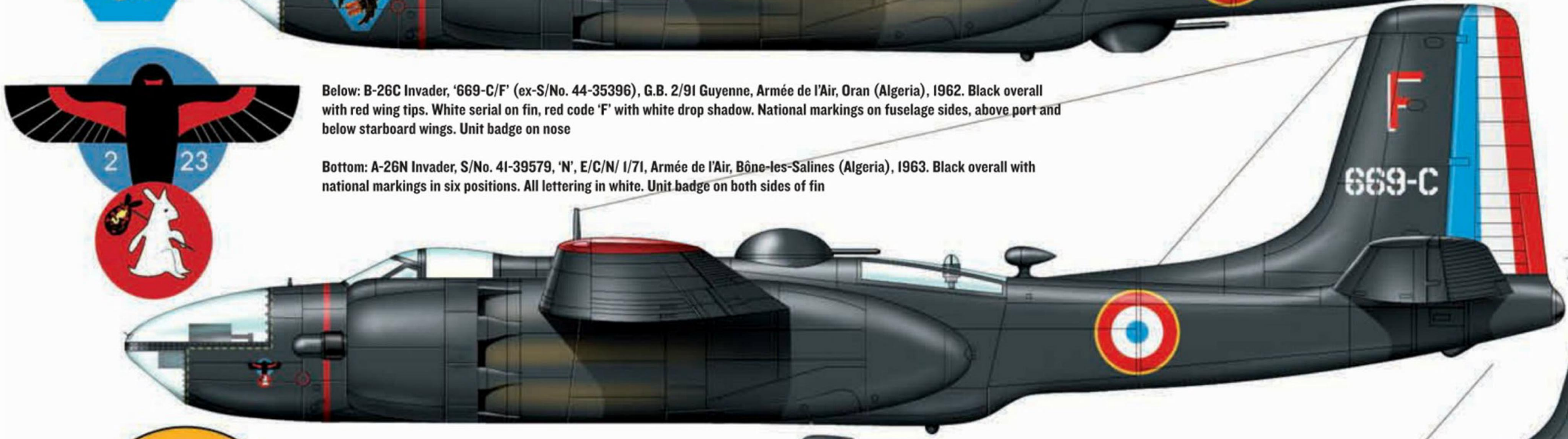
Below: B-26C Invader, S/No. 44-35424, '424-C/E', C.I.F.A.S. 328, Armée de l'Air, Constantine, 1958. Black overall with red wing tips. All lettering in white. National markings in six positions. Unit badge on nose (both sides)

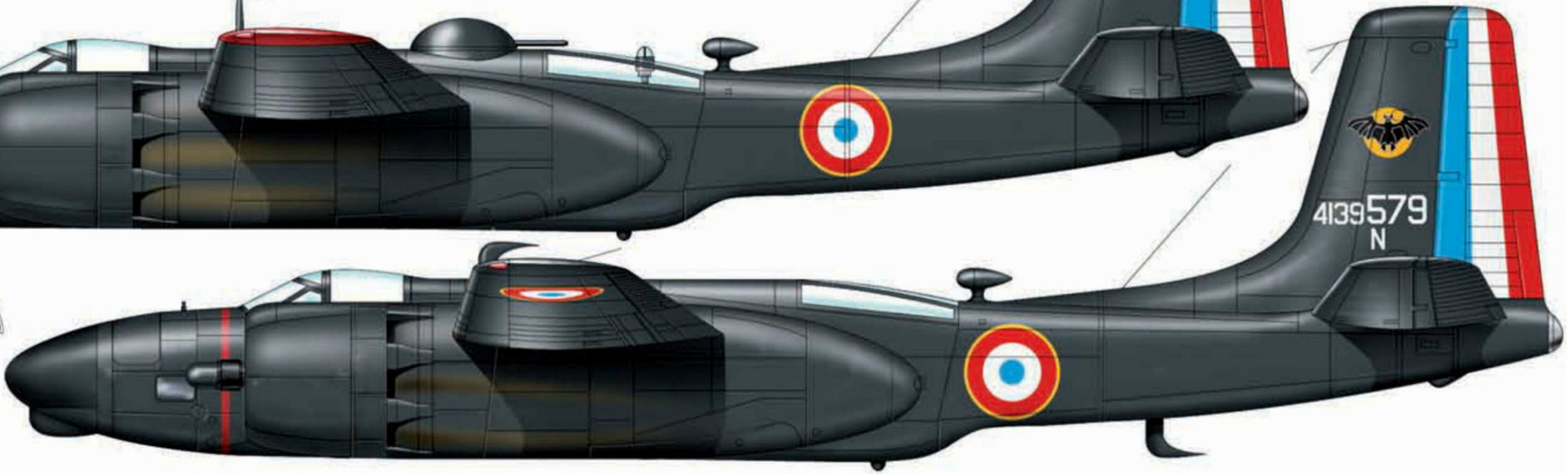


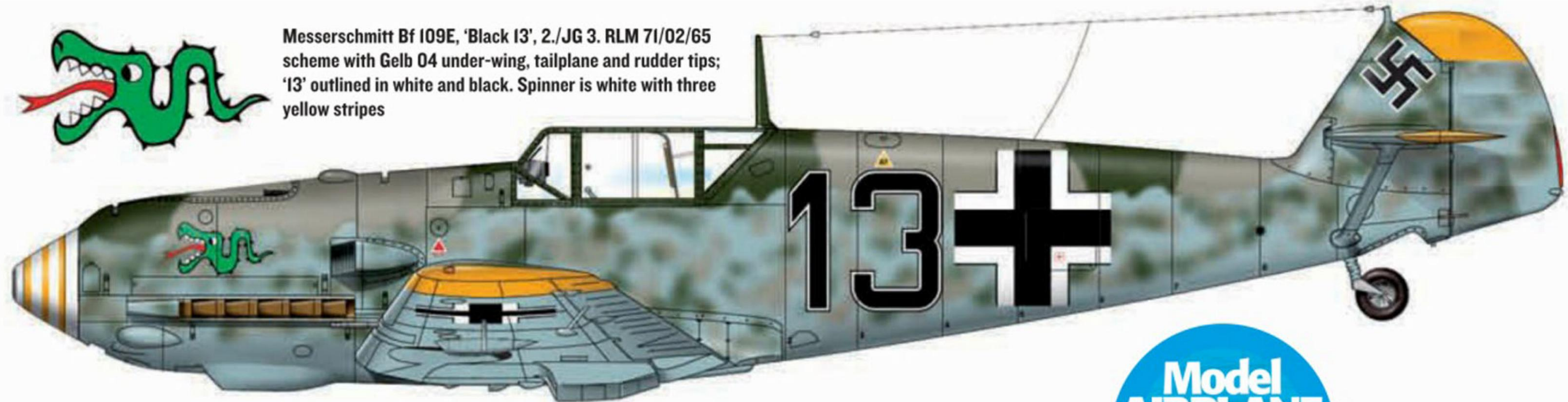

Below: B-26C Invader, '669-C/F' (ex-S/No. 44-35396), G.B. 2/91 Guyenne, Armée de l'Air, Oran (Algeria), 1962. Black overall with red wing tips. White serial on fin, red code 'F' with white drop shadow. National markings on fuselage sides, above port and below starboard wings. Unit badge on nose

Bottom: A-26N Invader, S/No. 41-39579, 'N', E/C/N/ 1/71, Armée de l'Air, Bône-les-Salines (Algeria), 1963. Black overall with national markings in six positions. All lettering in white. Unit badge on both sides of fin







Messerschmitt Bf 109E, 'Black 13', 2./JG 3. RLM 71/02/65 scheme with Gelb 04 under-wing, tailplane and rudder tips; '13' outlined in white and black. Spinner is white with three yellow stripes

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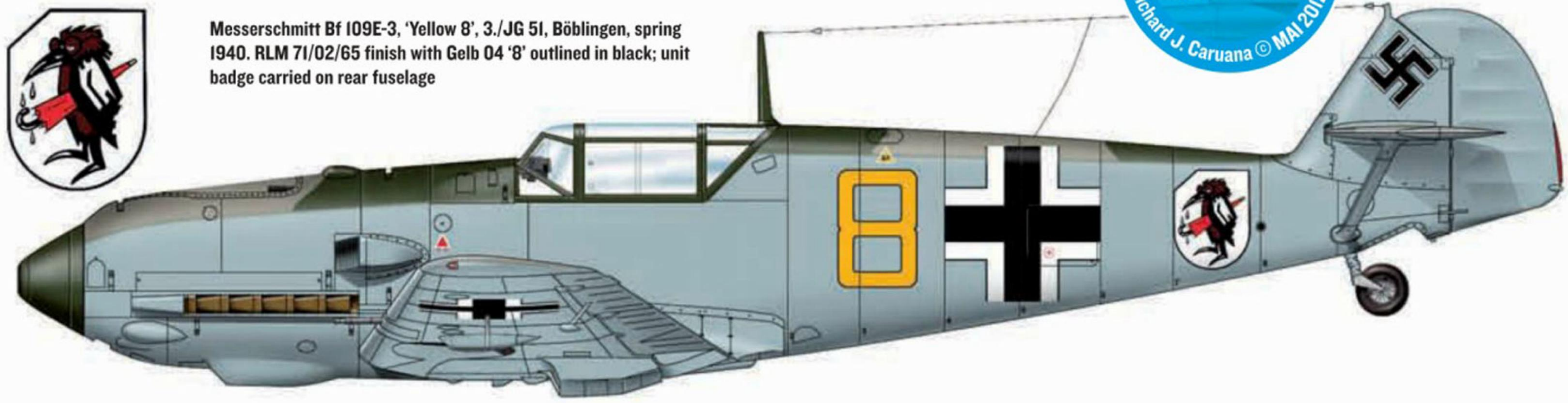
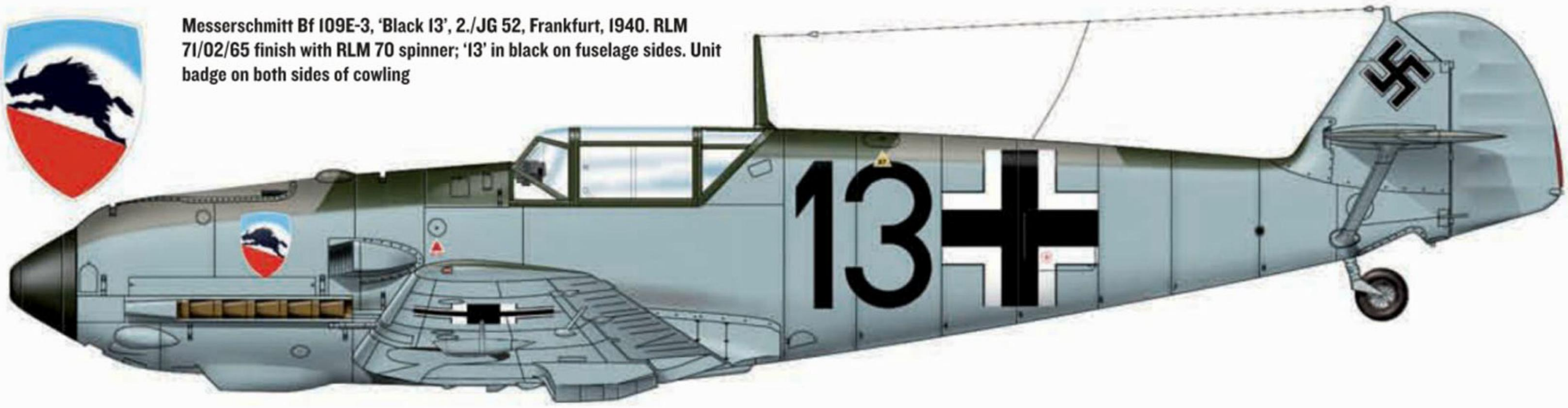
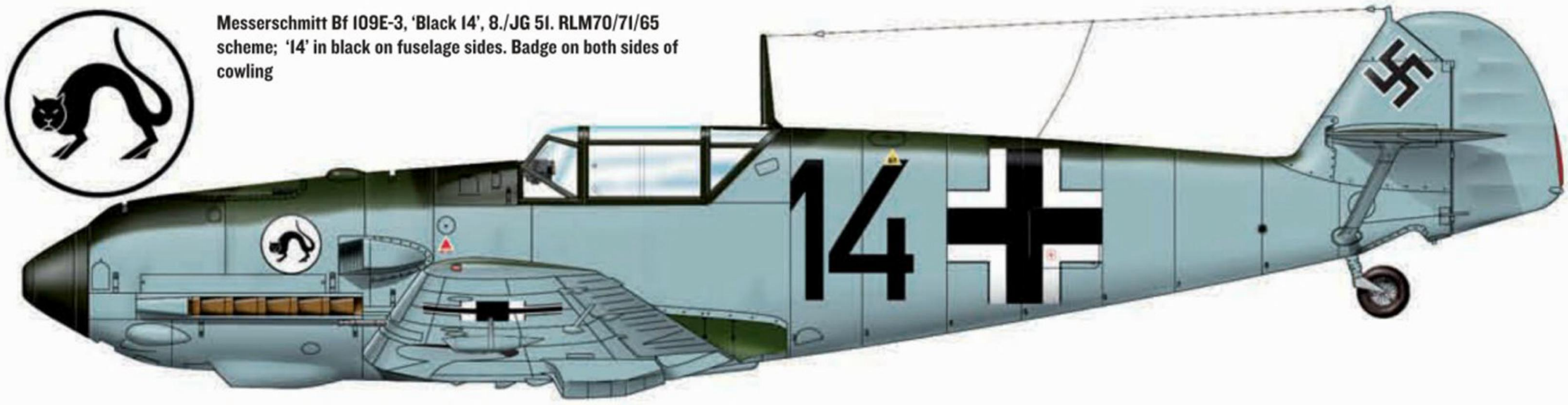


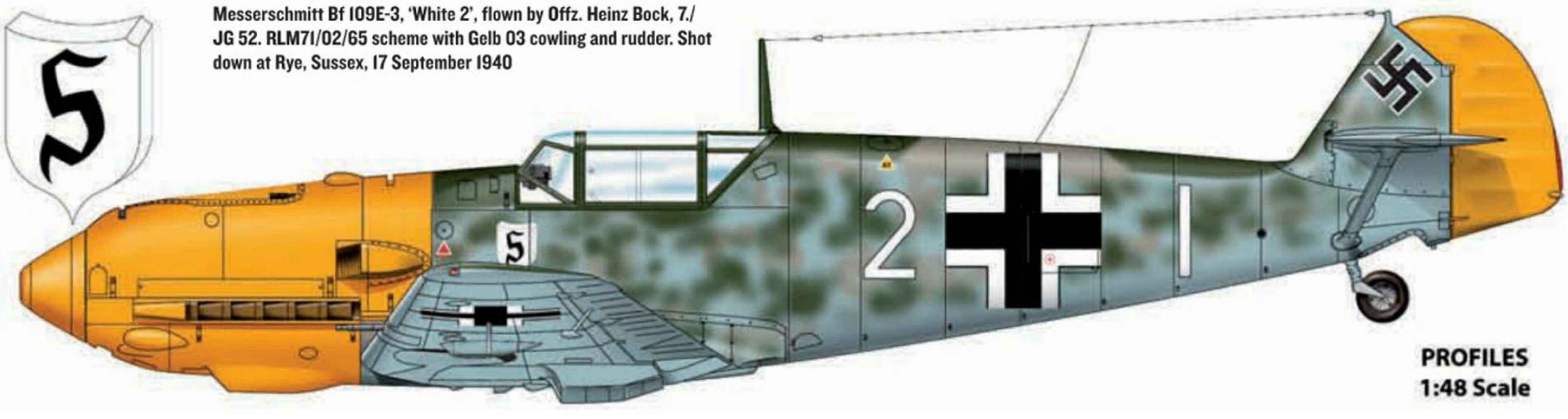
Messerschmitt Bf 109E-3, 'Yellow 8', 3./JG 51, Böblingen, spring 1940. RLM 71/02/65 finish with Gelb 04 '8' outlined in black; unit badge carried on rear fuselage



Messerschmitt Bf 109E-3, 'Black 13', 2./JG 52, Frankfurt, 1940. RLM 71/02/65 finish with RLM 70 spinner; '13' in black on fuselage sides. Unit badge on both sides of cowling



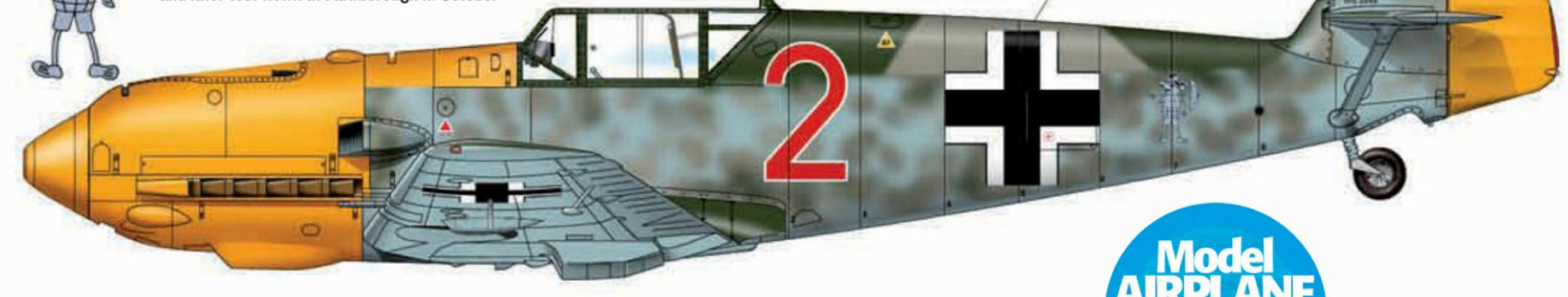
Messerschmitt Bf 109E-3, 'Black 14', 8./JG 51. RLM70/71/65 scheme; '14' in black on fuselage sides. Badge on both sides of cowling



Messerschmitt Bf 109E-3, 'White 2', flown by Offz. Heinz Bock, 7./JG 52. RLM71/02/65 scheme with Gelb 03 cowling and rudder. Shot down at Rye, Sussex, 17 September 1940

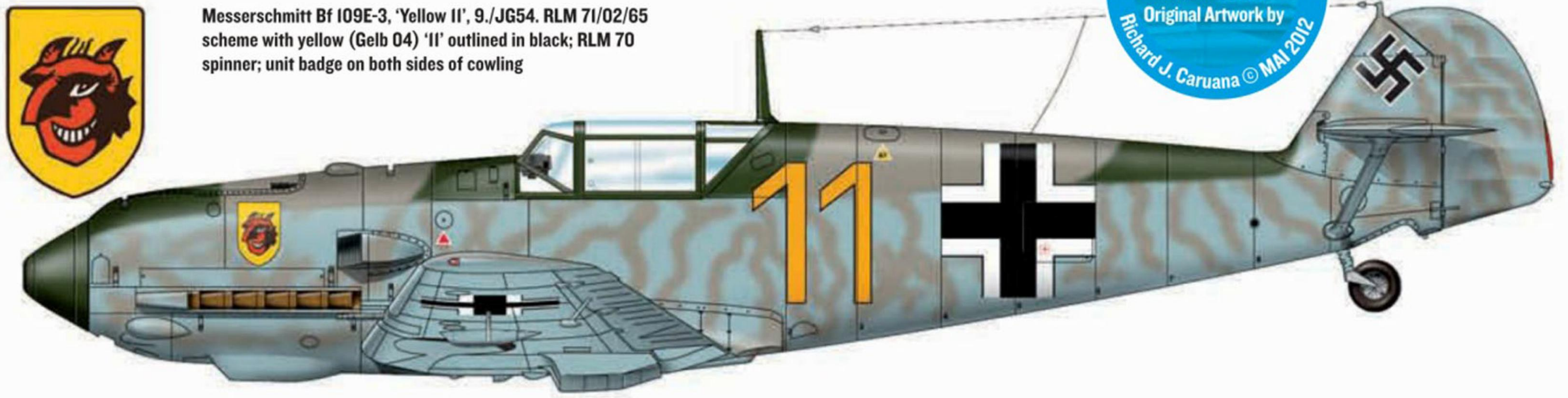
PROFILES
1:48 Scale

Messerschmitt Bf 109E-7, 'Red 2', W/Nr.2058, 3./LG2. RLM 71/02/65 scheme with red '2' on fuselage sides outlined in white. Yellow (Gelb 04) cowling and rudder: note unit marking on rear fuselage is in silver with black detail. Aircraft was brought down over London on the 15th September 1940 and later test flown at Farnborough in October

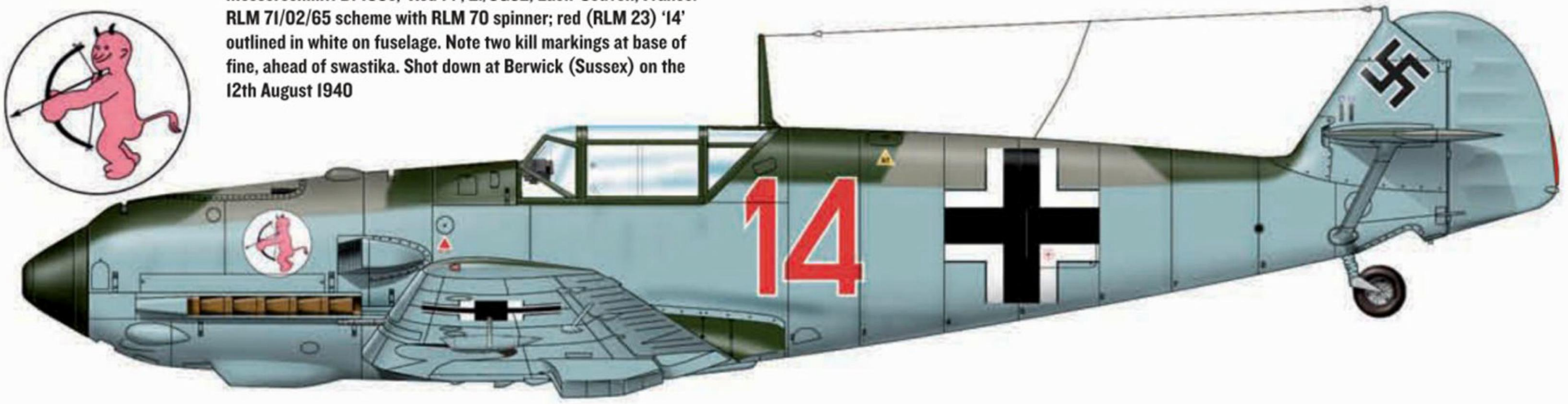


Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2012

Messerschmitt Bf 109E-3, 'Yellow 11', 9./JG54. RLM 71/02/65 scheme with yellow (Gelb 04) '11' outlined in black; RLM 70 spinner; unit badge on both sides of cowling



Messerschmitt Bf 109e, 'Red 14', 2./JG52, Laon-Couvon, France. RLM 71/02/65 scheme with RLM 70 spinner; red (RLM 23) '14' outlined in white on fuselage. Note two kill markings at base of fine, ahead of swastika. Shot down at Berwick (Sussex) on the 12th August 1940

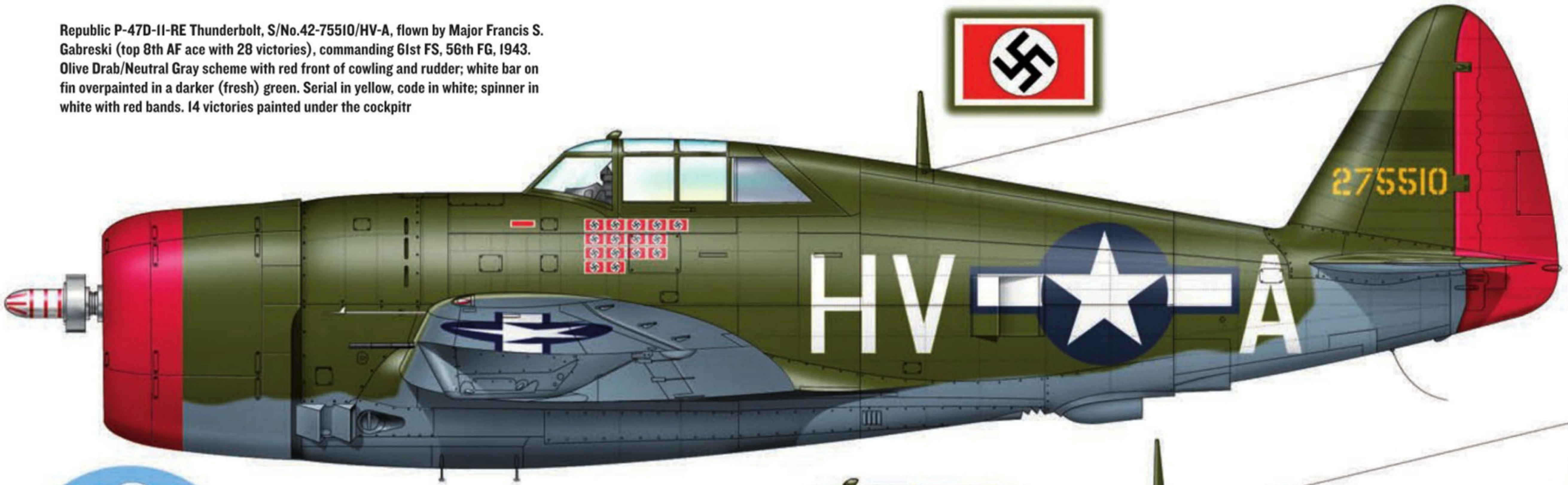


Messerschmitt Bf 109E, 'White 12', flown by Staffelkapitän Joachim Müncheberg, commander of 7./JG26, Sicily, February 1941. RLM 65 overall with RLM 66 mottling on fuselage; top of wings and tailplane in RLM 02 and RLM 71. Cowling and rudder in RLM 04

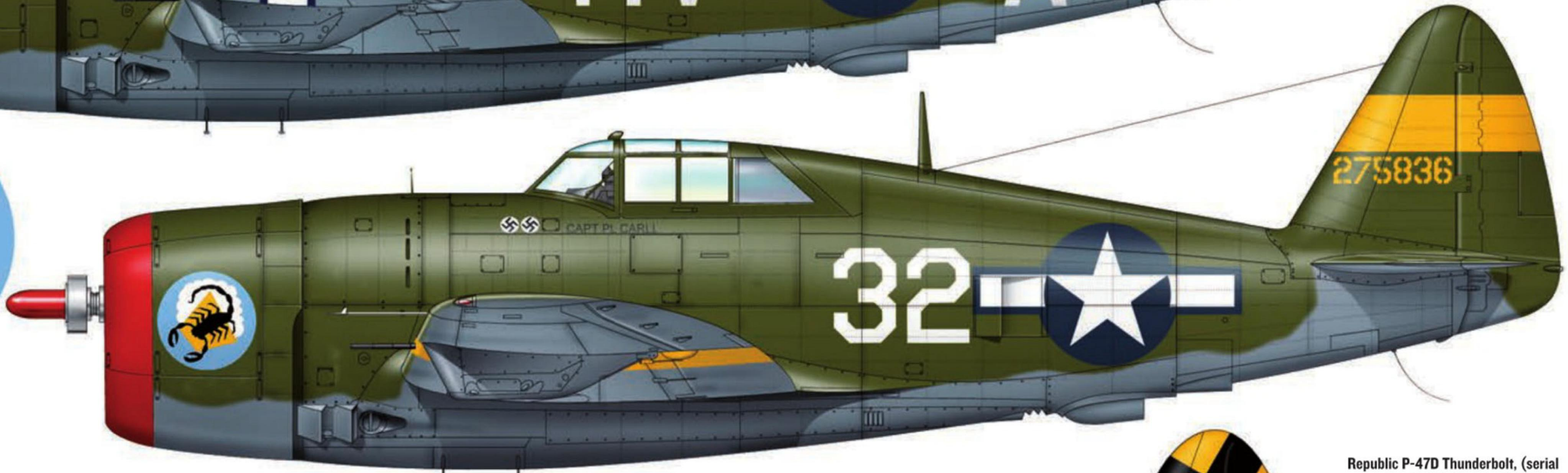
Messerschmitt Bf 109E-3, 'Yellow 1', 6./JG51, flown by Staffelkapitän Josef 'Pips' Priller, Autumn 1940. RLM 71/02/65 scheme; yellow (Gelb 04) cowling, rudder and '1' on fuselage, the latter outlined in black. Ace of hearts card emblem is pilot's personal insignia; 20 kills marked in white on fin

PROFILES
1:48 Scale

Republic P-47D-11-RE Thunderbolt, S/No.42-75510/HV-A, flown by Major Francis S. Gabreski (top 8th AF ace with 28 victories), commanding 61st FS, 56th FG, 1943. Olive Drab/Neutral Gray scheme with red front of cowling and rudder; white bar on fin overpainted in a darker (fresh) green. Serial in yellow, code in white; spinner in white with red bands. 14 victories painted under the cockpitr




P-47D-16-RE, S/No.42-75836/32, 64th FS, 57th FG, 9th AF. Olive Drab/Neutral Gray scheme; Yellow bands around wings and vertical tail surfaces. Red spinner and front of cowling; white code. National markings on fuselage sides, above port and below starboard wings. Pilot's name under cockpit reads CAPT P CARLL; note two kill markings ahead of cockpit



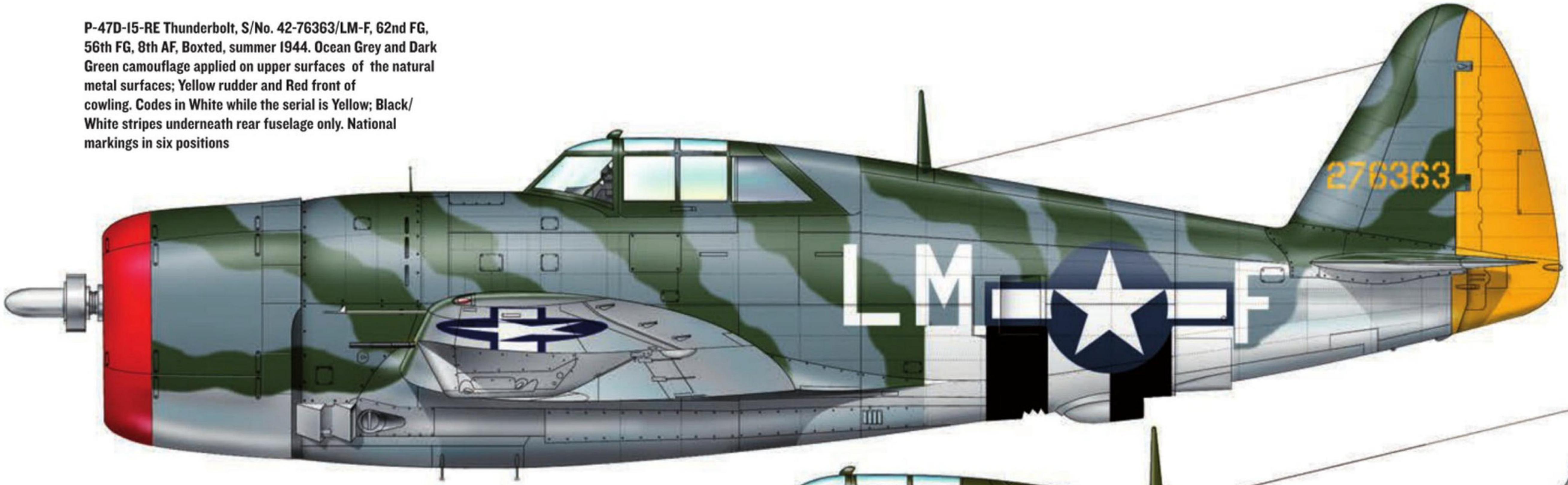

Republic P-47D Thunderbolt, (serial overpainted), 88, 'Big Stud', 319th FS, 325th FG, 15th AF, Foggia (Italy), 1944. Olive Drab/Neutral Gray scheme with red front of cowling edged in yellow; yellow/black checks on fin/rudder and horizontal tail surfaces. Code '88' in white; name in yellow over playing card. Note six victory markings ahead of cockpit

PROFILES:1/48 SCALE

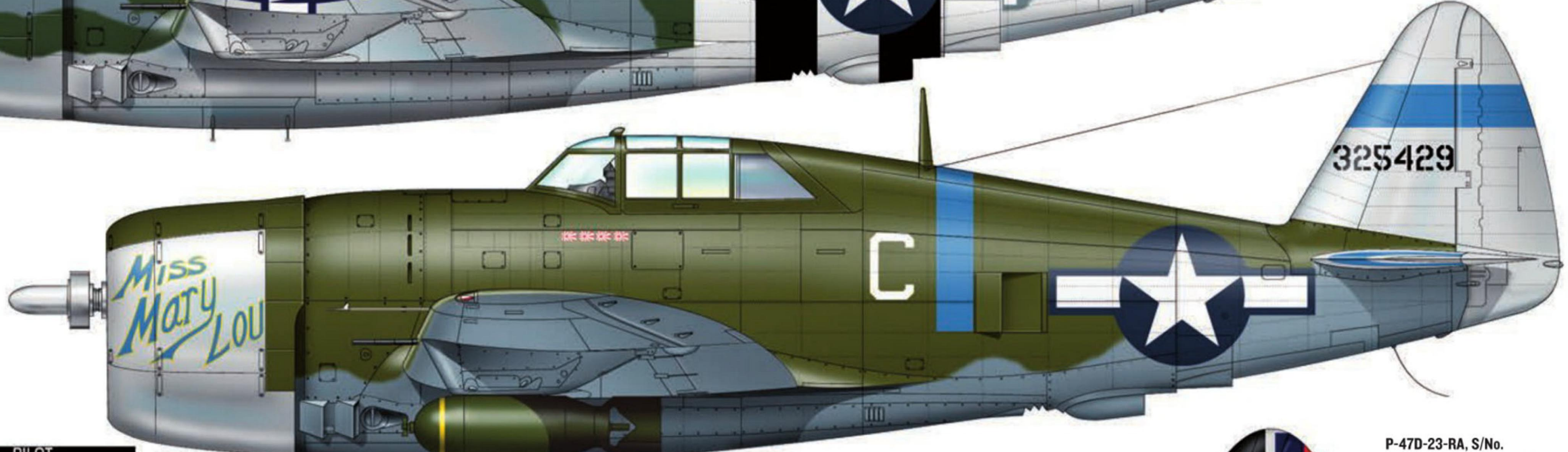
0 metres 1 2

0 feet 3 6

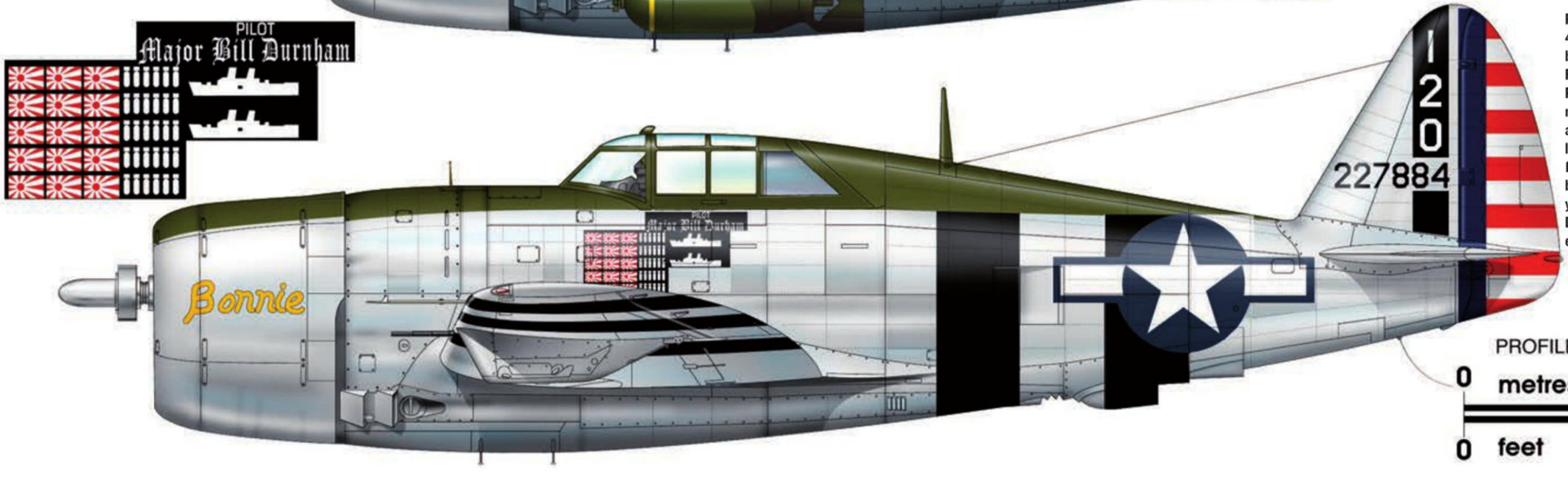
P-47D-15-RE Thunderbolt, S/No. 42-76363/LM-F, 62nd FG, 56th FG, 8th AF, Boxted, summer 1944. Ocean Grey and Dark Green camouflage applied on upper surfaces of the natural metal surfaces; Yellow rudder and Red front of cowling. Codes in White while the serial is Yellow; Black/White stripes underneath rear fuselage only. National markings in six positions




Republic P-47D-21-RA, S/No. 43-25429/C, 'Miss Mary Lou', 19th FS, 318th FG, 7th AF, Saipan, 1944. Olive Drab/Neutral Gray scheme with natural metal cowl areas and tail surfaces; bands around tail in mid-blue. Serial in black; code in white. Name on cowling in mid-blue with yellow outline; note four victory markings below cockpit




P-47D-23-RA, S/No. 42-27884/120, 'Bonnie', flown by Maj. Bill Durnham, 460th FS, 348th FG, Tacloban, Leyte, Philippines, 1945. Natural metal overall with black stripes around wings and rear fuselage; black vertical stripe with 120 in white on fin. Rudder in blue/white/red; 'Bonnie' in yellow, outlined black. Olive Drab anti-dazzle panel extended onto fuselage spine

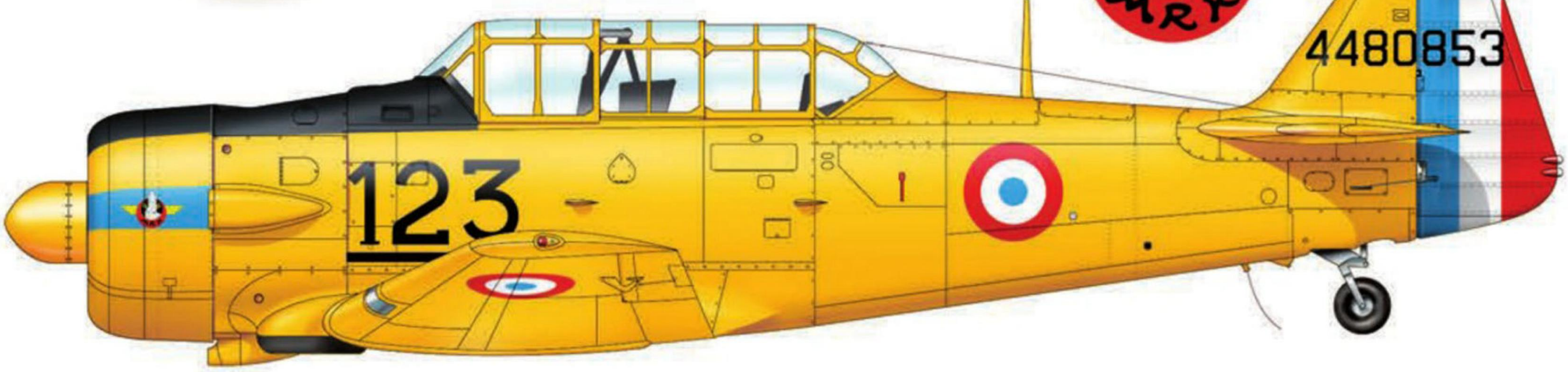



PROFILES:1/48 SCALE

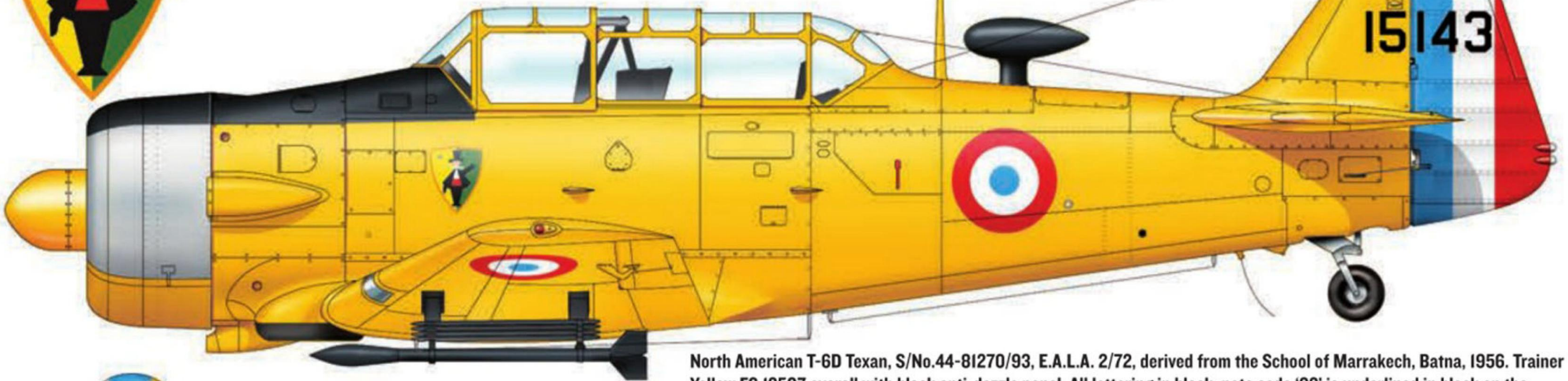
0 metres 1 2

0 feet 3 6

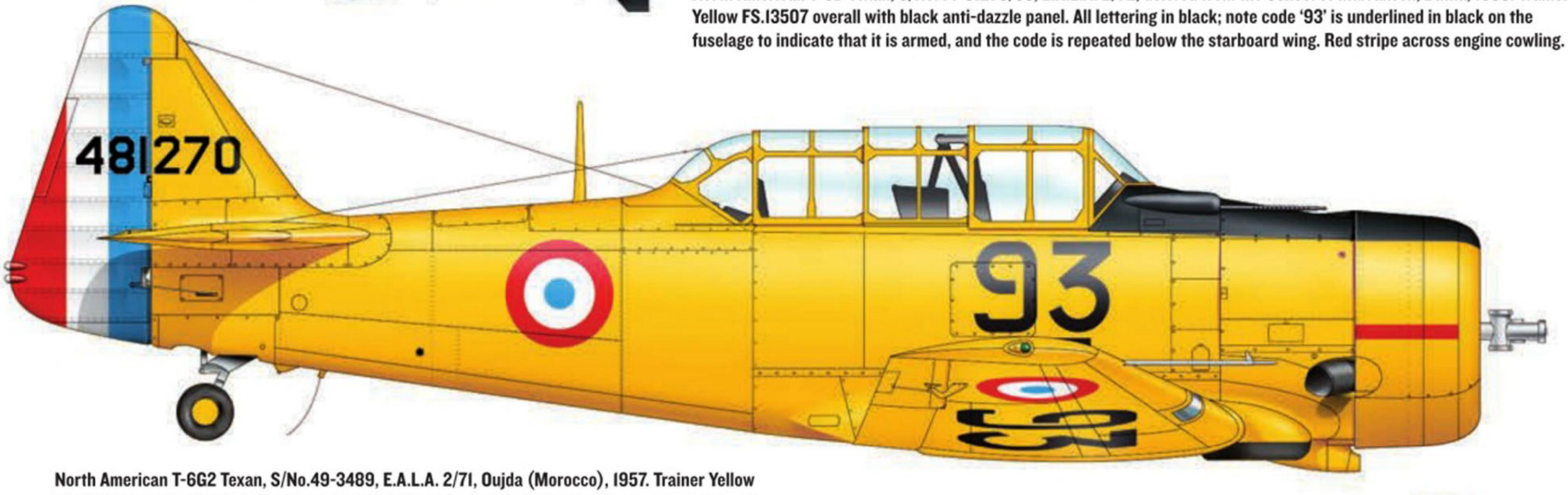
North American T-6D Texan, S/No.44-80853/125, École de Marrakech, late 1967. Trainer Yellow FS.13507 overall with black anti-dazzle panel. All lettering in black, with '123' repeated below starboard wing, inboard of roundel. Standard national markings; mid-blue band across engine cowling with unit (Flight School) insignia superimposed. Bar below code number indicated that aircraft was capable of being armed



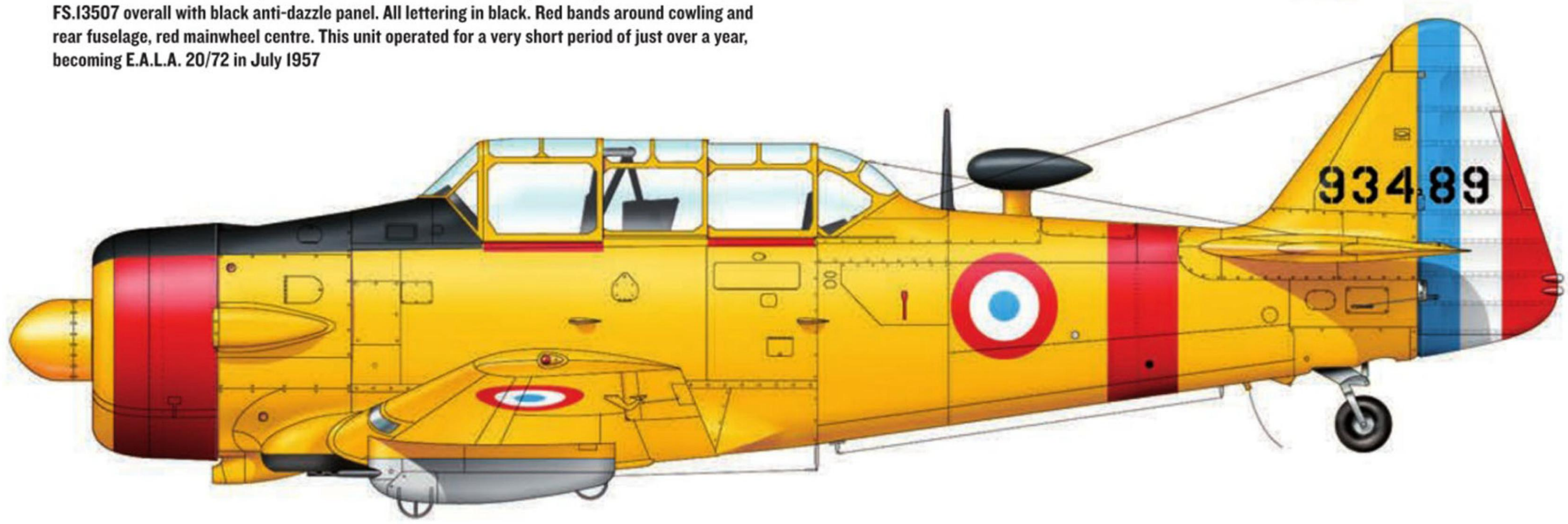
North American T-6G1 Texan, S/No.51-5143, E.A.L.A. 2/72, Batna, 1956. Trainer Yellow FS.13507 overall except for a section of the cowling which is natural metal,indicating a replacement panel (only aircraft in the unit noted to feature this) Anti-dazzle panel and all lettering in black. 'Bonhomme' (Gentleman) unit badge below windscreen




North American T-6D Texan, S/No.44-81270/93, E.A.L.A. 2/72, derived from the School of Marrakech, Batna, 1956. Trainer Yellow FS.13507 overall with black anti-dazzle panel. All lettering in black; note code '93' is underlined in black on the fuselage to indicate that it is armed, and the code is repeated below the starboard wing. Red stripe across engine cowling.



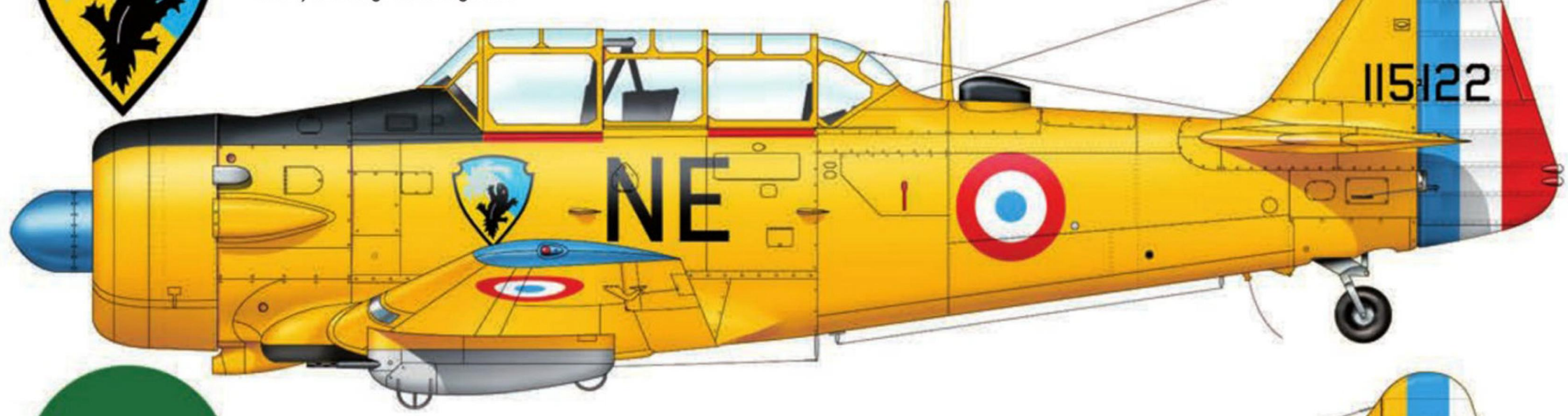

North American T-6G2 Texan, S/No.49-3489, E.A.L.A. 2/71, Oujda (Morocco), 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panel. All lettering in black. Red bands around cowling and rear fuselage, red mainwheel centre. This unit operated for a very short period of just over a year, becoming E.A.L.A. 20/72 in July 1957



# TEXANS IN ALGERIA

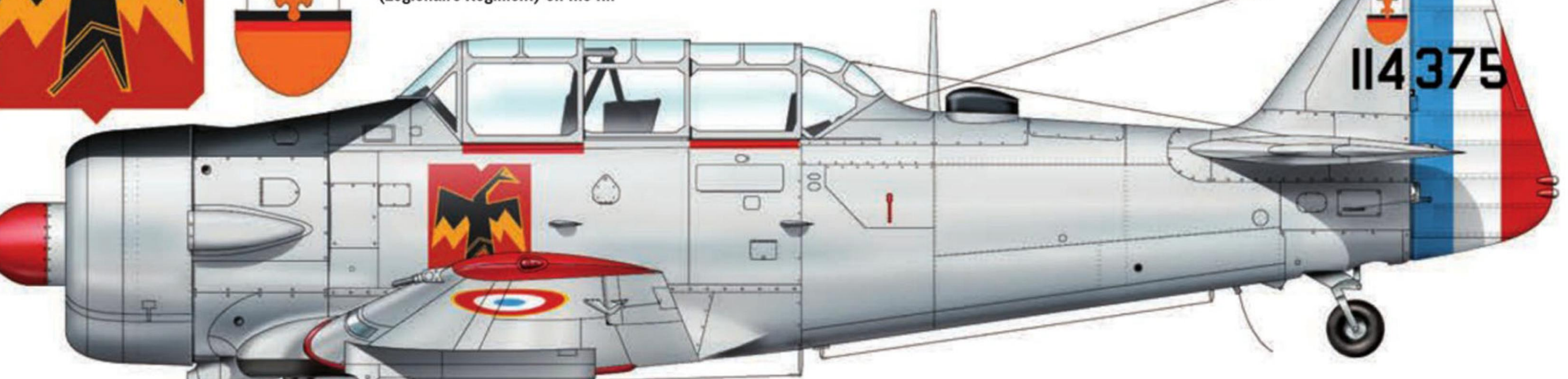
North American T-6G2 Texan, S/No.49-2979/L, E.A.L.A. 3/72, Bou Arfa, 1957. Trainer Yellow FS.13057 overall with black anti-dazzle panel, spinner, wingtips and flash along fuselage sides. All lettering in black. 'Biquette' (Goat Kid) unit badge on fuselage sides

North American T-6G2 Texan, S/No.51-15122/NE, E.A.L.A. 4/72, Marrakech, 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panels. All lettering in black. Mid-blue spinner and wingtips. 'Daube' (Desert Lizard) unit badge on fuselage sides



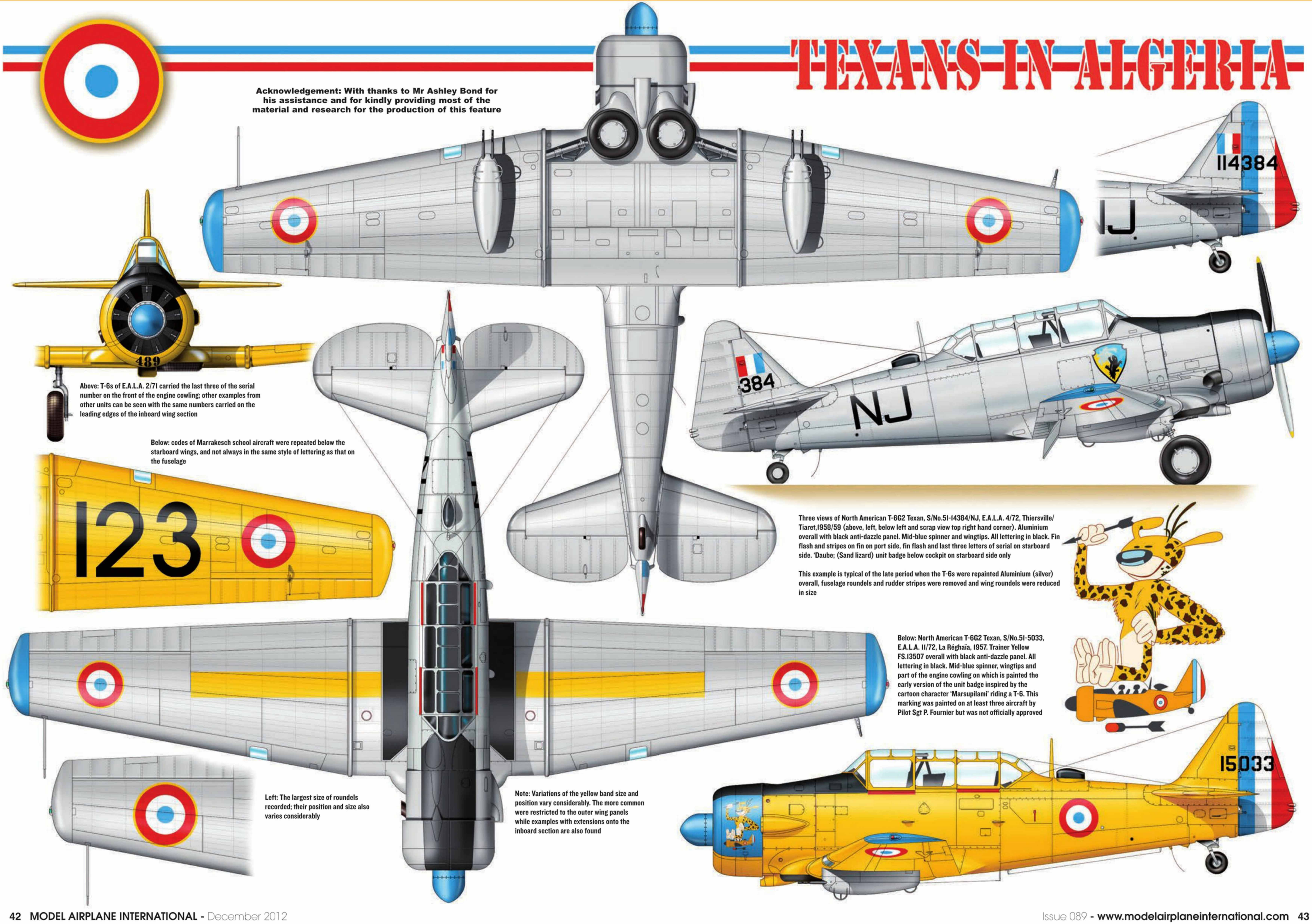
Above: North American T-6G Texan, S/No.51-15237/OH, E.A.L.A. 5/72, Colomb-Béchar late 1957. Trainer Yellow FS.13507 overall with 'dog-face' marking in black, red and white. All lettering in black. 'Daube' (Desert Lizard) unit badge on fin

North American T-6G2 Texan, S/No.51-14375, E.A.L.A. 6/72, Khenchela, April 1958. Natural metal overall with black anti-dazzle panel. All lettering in black. Yellow spanwise bands above the wings. Red front of spinner, red wingtips and outer wing joint fairing. 'Ramel' (Eagle) unit badge over a red shield below cockpit; badge of the 13 éme DBLE (Legionaire Regiment) on the fin



# TEXANS IN ALGERIA

Acknowledgement: With thanks to Mr Ashley Bond for his assistance and for kindly providing most of the material and research for the production of this feature




Above: T-6s of E.A.L.A. 2/71 carried the last three of the serial number on the front of the engine cowling; other examples from other units can be seen with the same numbers carried on the leading edges of the inboard wing section

Below: codes of Marrakesch school aircraft were repeated below the starboard wings, and not always in the same style of lettering as that on the fuselage

Three views of North American T-6G2 Texan, S/No.51-14384/NJ, E.A.L.A. 4/72, Thiersville/Tiaret,1958/59 (above, left, below left and scrap view top right hand corner). Aluminium overall with black anti-dazzle panel. Mid-blue spinner and wingtips. All lettering in black. Fin flash and stripes on fin on port side, fin flash and last three letters of serial on starboard side. 'Daube; (Sand lizard) unit badge below cockpit on starboard side only

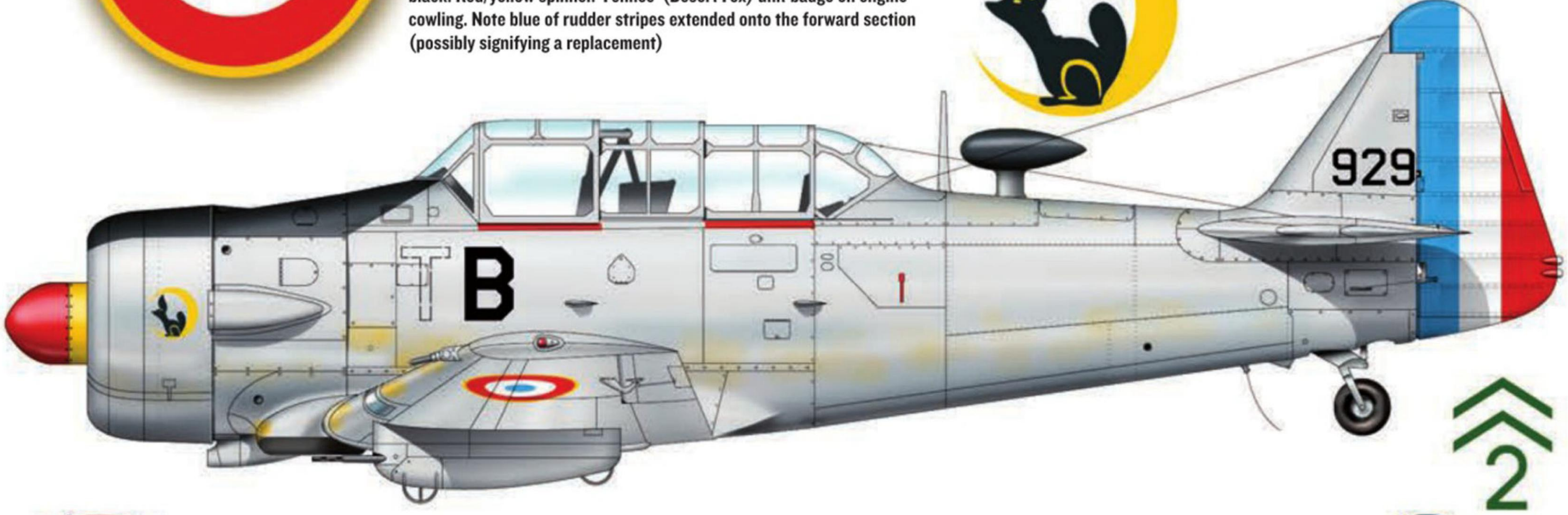
This example is typical of the late period when the T-6s were repainted Aluminium (silver) overall, fuselage roundels and rudder stripes were removed and wing roundels were reduced in size

Below: North American T-6G2 Texan, S/No.51-5033, E.A.L.A. 11/72, La Réghaïa, 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panel. All lettering in black. Mid-blue spinner, wingtips and part of the engine cowling on which is painted the early version of the unit badge inspired by the cartoon character 'Marsupilami' riding a T-6. This marking was painted on at least three aircraft by Pilot Sgt P. Fournier but was not officially approved

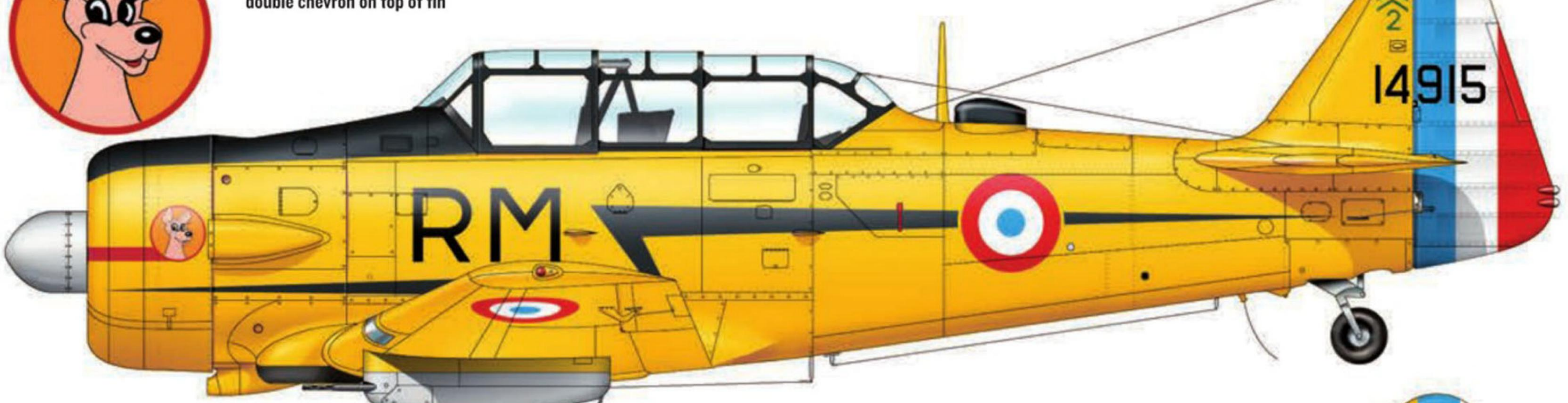
Left: The largest size of roundels recorded; their position and size also varies considerably

Note: Variations of the yellow band size and position vary considerably. The more common were restricted to the outer wing panels while examples with extensions onto the inboard section are also found

**North American T-6G2 Texan, S/No.49-2929/TB, E.A.L.A. 7/72, Atar/Tébessa,1958. Natural metal overall but with areas still showing the previous Trainer Yellow finish. Anti-dazzle panel and all lettering in black. Red/yellow spinner. 'Fennec' (Desert Fox) unit badge on engine cowling. Note blue of rudder stripes extended onto the forward section (possibly signifying a replacement)**

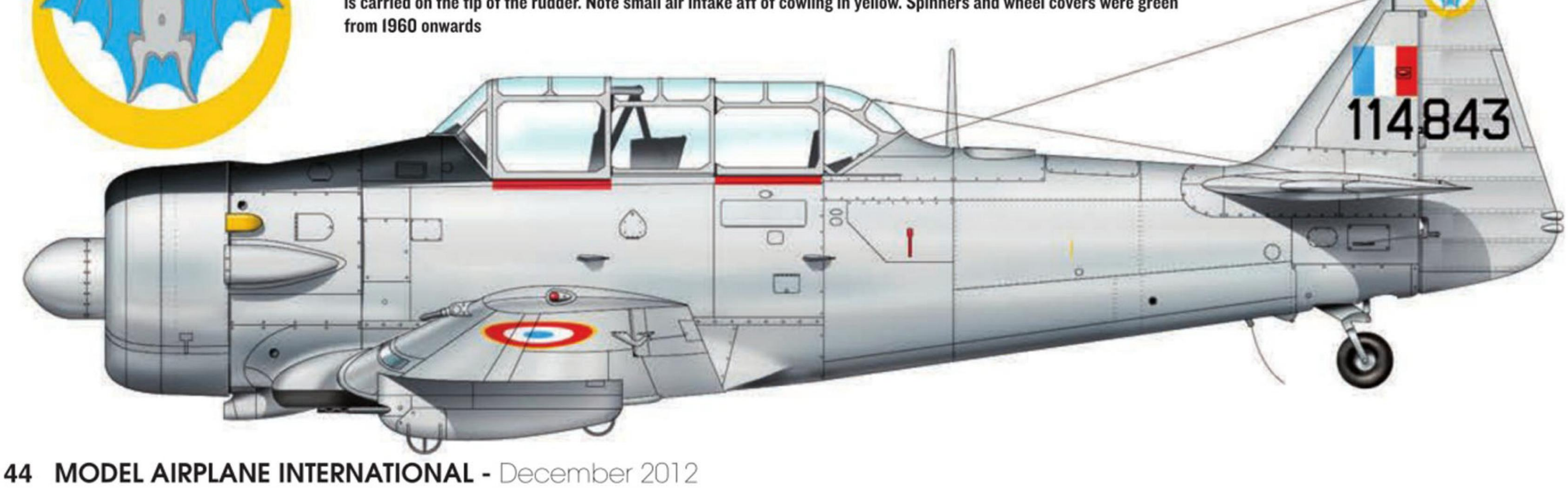



**North American T-6G Texan, S/No.51-4915/RM, E.A.L.A. 8/72, Tébessa, 1957. Yellow FS 13507 overall with black anti-dazzle panel, cockpit framing and flash along fuselage sides. All lettering in black. Red bar across engine cowling and unit badge above it. Natural metal spinner. Green '2' with double chevron on top of fin**



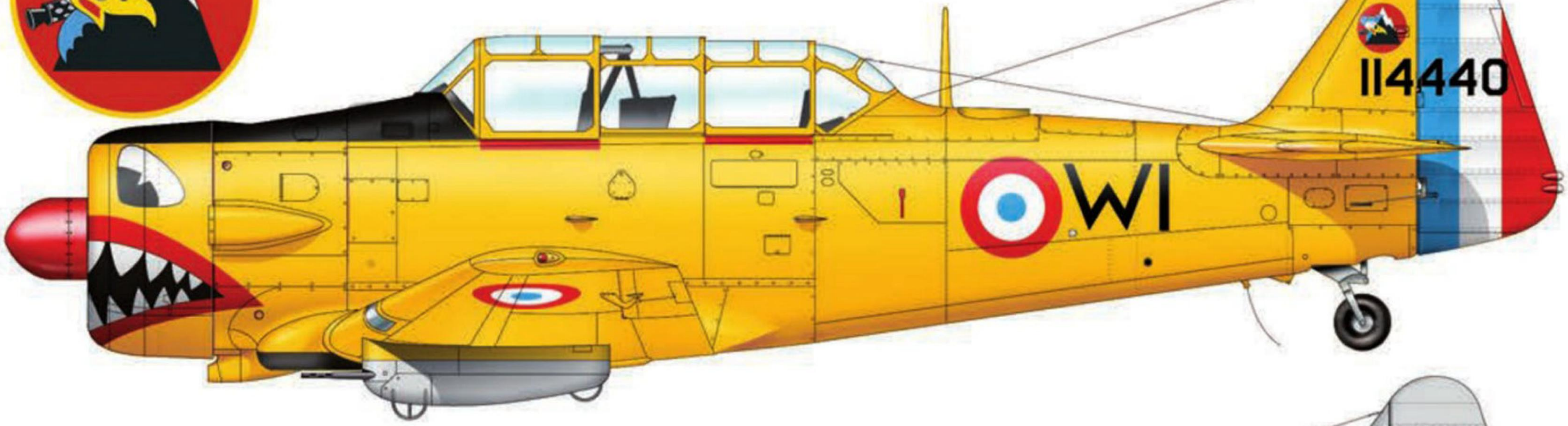

**North American T-6G1 Texan, S/No.49-3004/TA, E.A.L.A. 10/72, Orléansville, 1956. Trainer Yellow FS.13507 overall with black anti-dazzle panel, wingtips and arrow along fuselage sides; black/yellow striped spinner. All lettering in black. Wheel covers are also yellow and black**

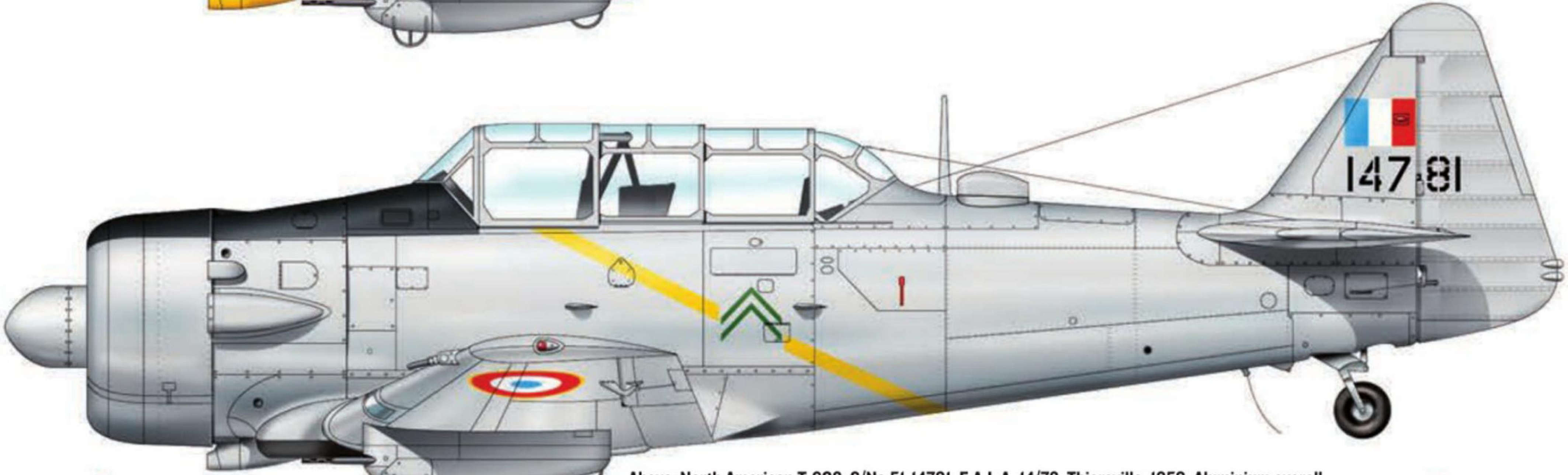
**North American T-6G2 Texan, S/No.51-14843, E.A.L.A. 10/72, Sétif, November 1959. Aluminium overall with black anti-dazzle panel and spanwise yellow bands above the wings. All lettering in black. 'Chauve-Souris' (Bat) unit badge is carried on the tip of the rudder. Note small air intake aft of cowling in yellow. Spinners and wheel covers were green from 1960 onwards**



# TEXANS IN ALGERIA

North American T-6G Texan, S/No.51-14440/WI, E.A.L.A. 13/72, Paul Cazelles, 1957. Trainer Yellow FS.13507 overall with 'Sharkmouth' marking in black, red and white. All lettering in black. Red spinner. 'Cigogne d'Uturu' (Stork of Uturu) unit badge on fin

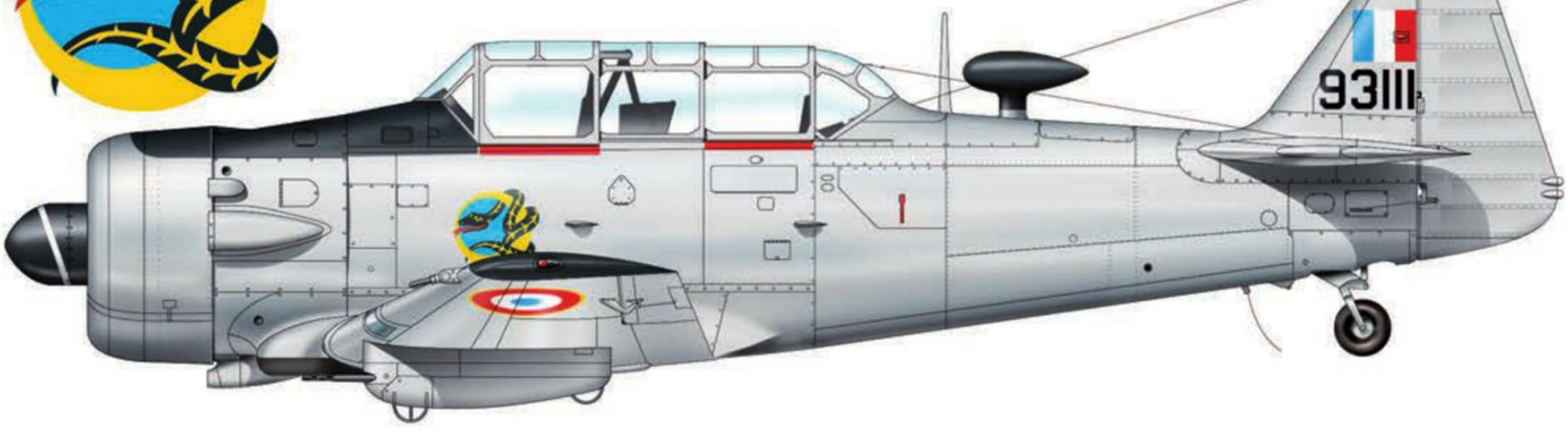



Above: North American T-6G2, S/No.51-14781, E.A.L.A. 14/72, Thiersville, 1958. Aluminium overall with black anti-dazzle panel. Yellow spanwise bars above the wings. All lettering in black. Yellow angled band around fuselage with a green double chevron

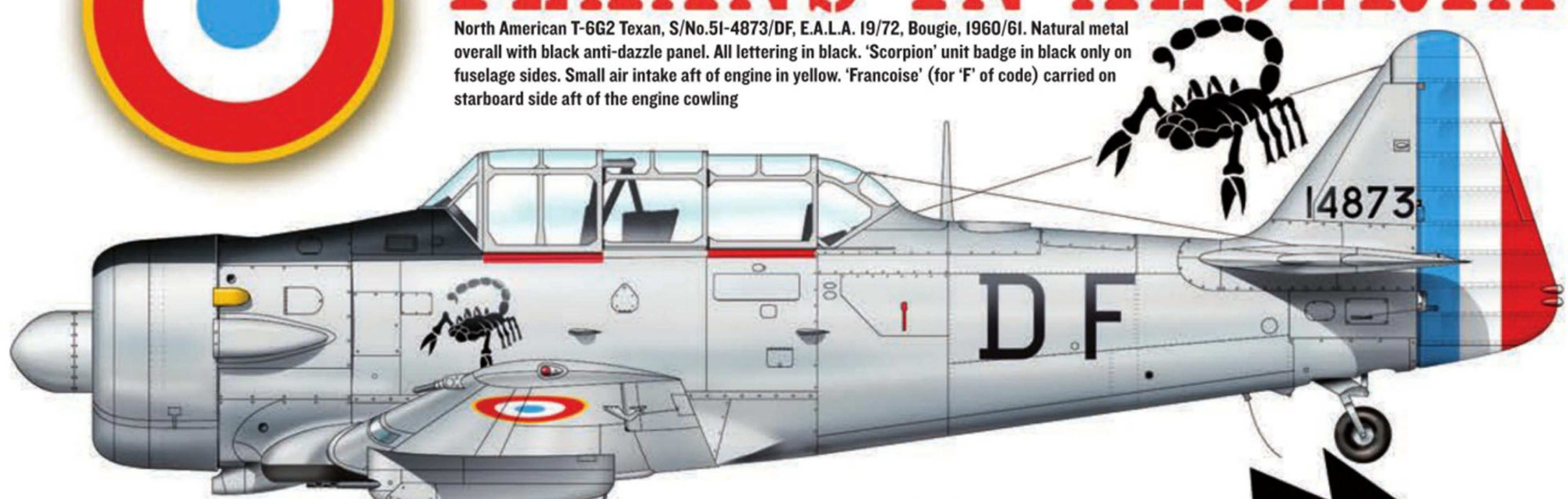
Above: North American T-6G Texan, S/No.49-2982/YD, E.A.L.A. 15/72, Bou Saâda, 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panel and band across cowling. 'Balbuzard' (Buzzard) unit badge superimposed. All lettering in black. Mission tally in blue cannon shells, white rockets and red bombs over a black rectangle. red spinner and wingtips

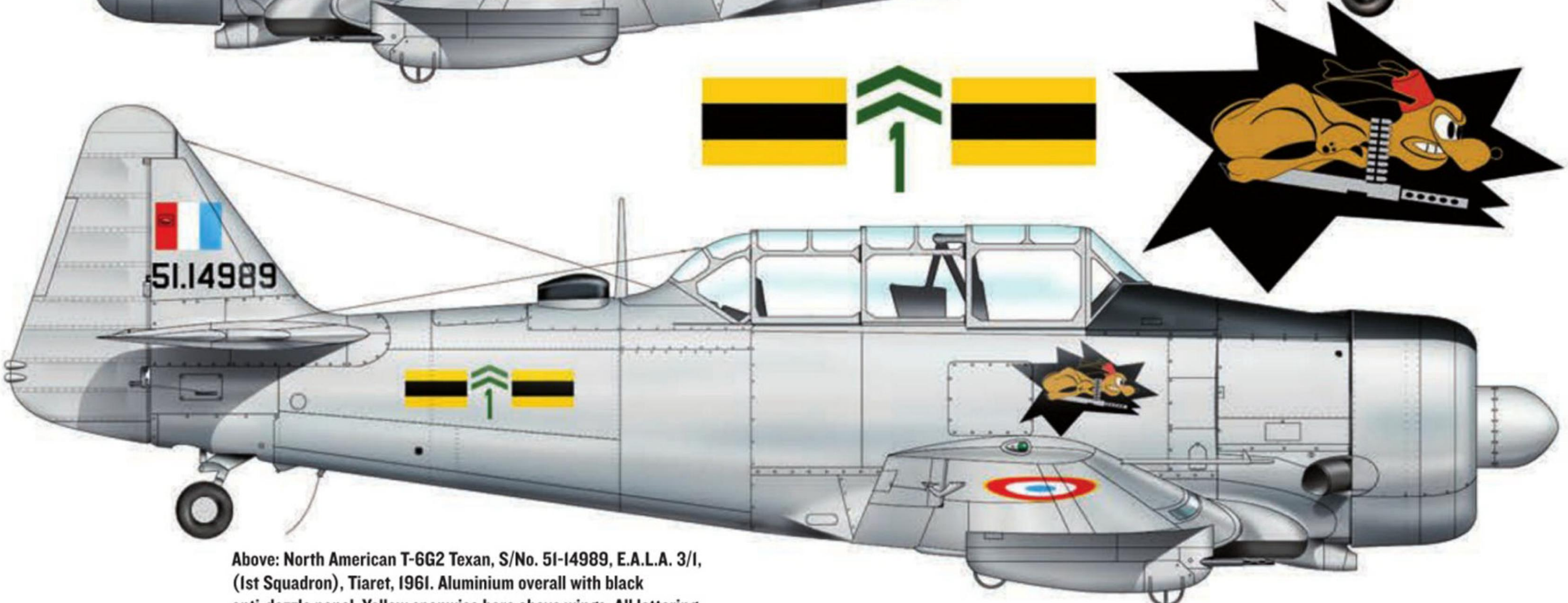
Below: North American T-6G2 Texan, S/No.49-3111, E.A.L.A. 16/72, Biskra, September 1959. Aluminium overall with black anti-dazzle panel, wingtips and spinner, the latter having a white spiral. All lettering in black. Yellow spanwise panels above the wings. 'Serpent/Crescent' unit badge on fuselage sides



# TEXANS IN ALGERIA

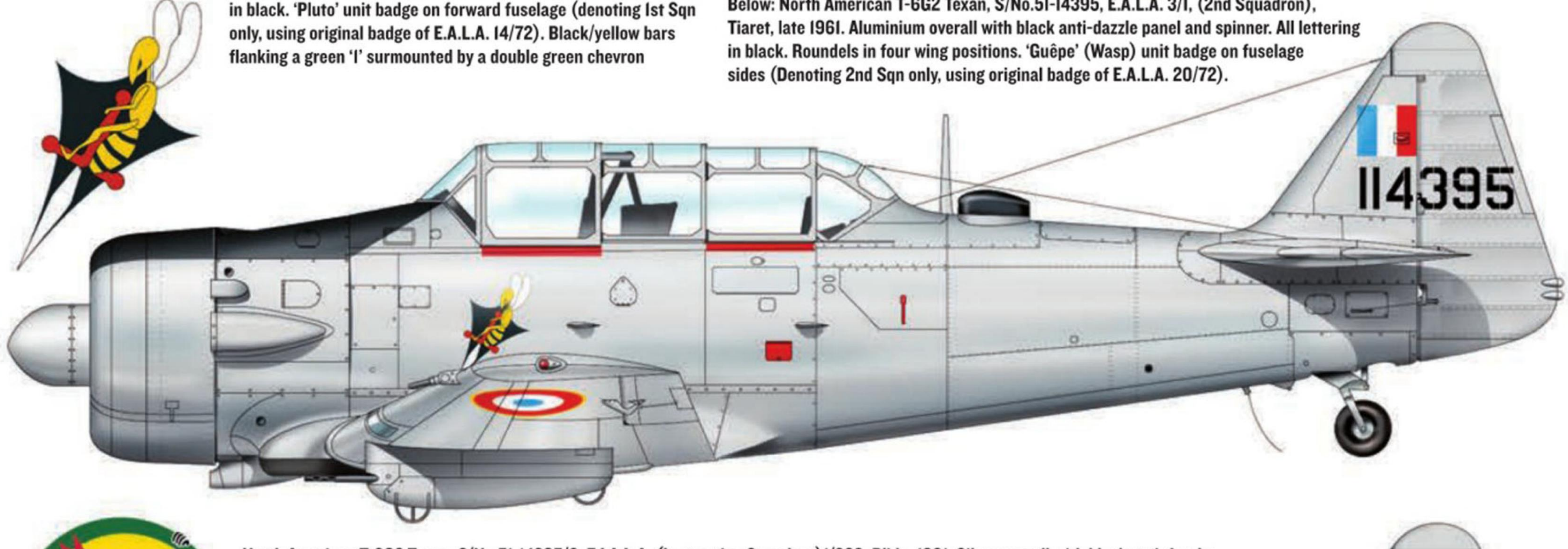
North American T-6G2 Texan, S/No.51-4873/DF, E.A.L.A. 19/72, Bougie, 1960/61. Natural metal overall with black anti-dazzle panel. All lettering in black. 'Scorpion' unit badge in black only on fuselage sides. Small air intake aft of engine in yellow. 'Francoise' (for 'F' of code) carried on starboard side aft of the engine cowling



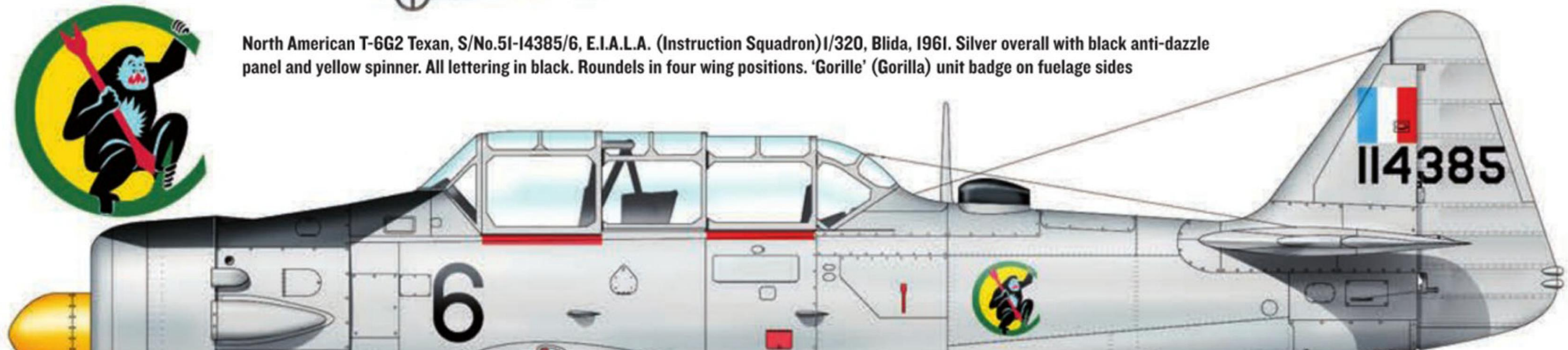




Above: North American T-6G2 Texan, S/No. 51-14989, E.A.L.A. 3/1, (1st Squadron), Tiaret, 1961. Aluminium overall with black anti-dazzle panel. Yellow spanwise bars above wings. All lettering in black. 'Pluto' unit badge on forward fuselage (denoting 1st Sqn only, using original badge of E.A.L.A. 14/72). Black/yellow bars flanking a green 'I' surmounted by a double green chevron

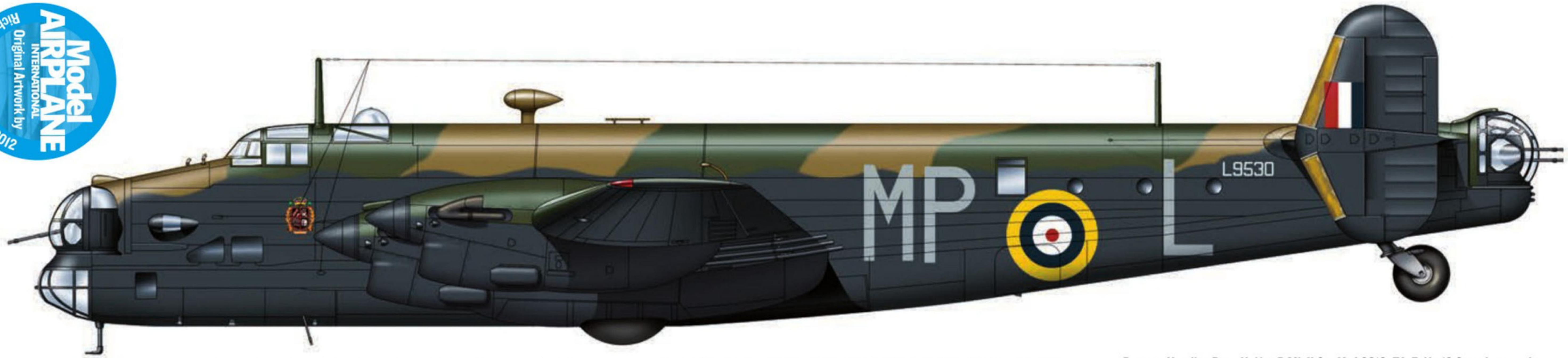
Below: North American T-6G2 Texan, S/No.51-14395, E.A.L.A. 3/1, (2nd Squadron), Tiaret, late 1961. Aluminium overall with black anti-dazzle panel and spinner. All lettering in black. Roundels in four wing positions. 'Guêpe' (Wasp) unit badge on fuselage sides (Denoting 2nd Sqn only, using original badge of E.A.L.A. 20/72).




North American T-6G2 Texan, S/No.51-14385/6, E.I.A.L.A. (Instruction Squadron)1/320, Blida, 1961. Silver overall with black anti-dazzle panel and yellow spinner. All lettering in black. Roundels in four wing positions. 'Gorille' (Gorilla) unit badge on fuelage sides



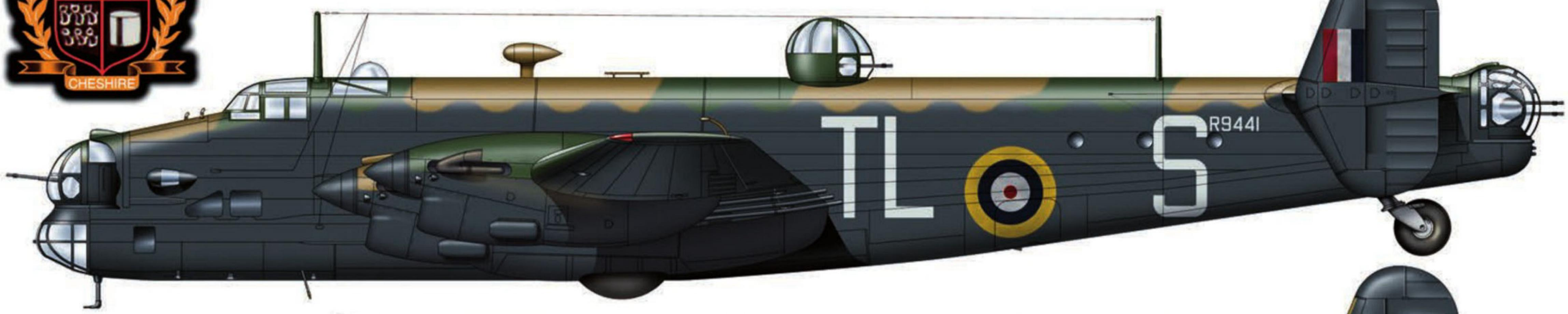
Model AIRPLANE INTERNATIONAL
Original Artwork by Richard J. Caruana © MAI 2012

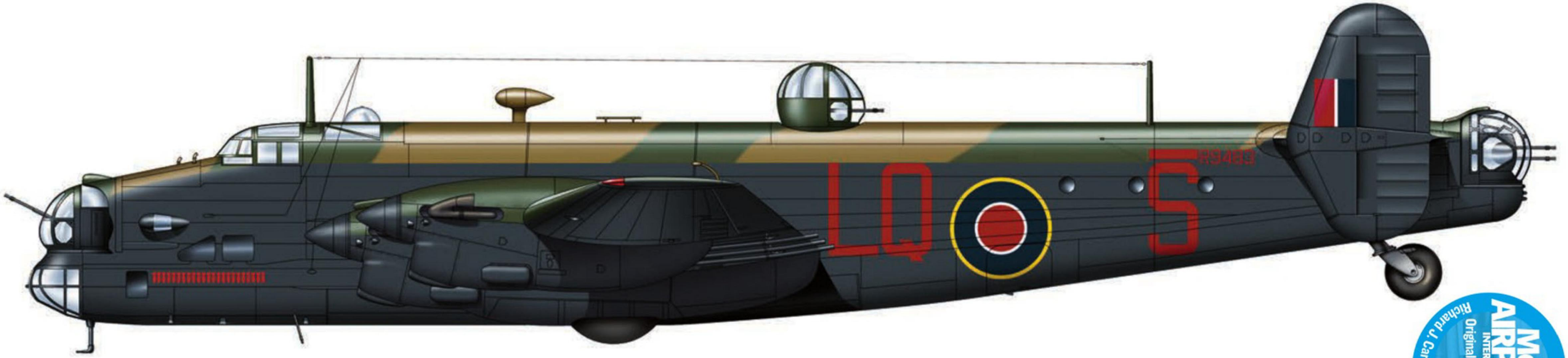



Above: Handley Page Halifax BB Mk I Srs I , L9530, MP•L, flown by P/Off Christopher Cheshire, No.76 Squadron, Middleton St John, June 1941. Dark Earth/ Dark Green upper surfaces with Night undersides; codes in Light Grey, serial in Red. Blue/Red roundels above wings. Yellowish anti-icing paste applied to leading edges, particularly noticeable on the fins

Below: Handley Page Halifax B Mk II Srs I, R9441, TL•S, No.35 Squadron RAF, February 1942. Dark Earth/Dark Green upper surfaces; Night undersides. Codes and serial in Medium Sea Grey; note fuselage roundels and fin flash have been toned down with a thin black wash

Bottom: Handley Page Halfax B Mk II Srs IA, L9619, ZA•E, No.10 Squadron, early 1942. Dark Earth/Dark Green upper surfaces with Night undersides; codes and serial in Medium Sea Grey. Blue/Red roundels above wings






Above: Handley Page Halifax B Mk II Srs I, R9483, LQ•S, No.405 (Vancouver) Squadron RCAF, 1942. Dark Earth/Dark Green uppersurfaces; Night undersides. Dull Red codes and serials. Fuselage roundela of non-standard proportions; Blue/Red roundels above wings

Below: Handley Page Halifax B Mk II, W7710, LQ•R, 'Ruhr Valley Express', No.405 (Vancouver) Squadron RCAF, late 1942. Dark Earth/Dark Green upper surfaces; Night undersides. Codes and serials in Dull Red; yellowish anti-icing paste applied to all leading edges. Front triangular window, above nose art, appears to have been also painted in Dull Red. Blue/Red roundels above wings

Bottom: Handley Page Halifax B Mk II Srs I, L9168, NF•W, No.138 Squadron RAF, 1942. Dark Earth/Dark Green uppersurfaces; Night undersides. Dull Red codes and serial; 'Blue/Red roundels above wings

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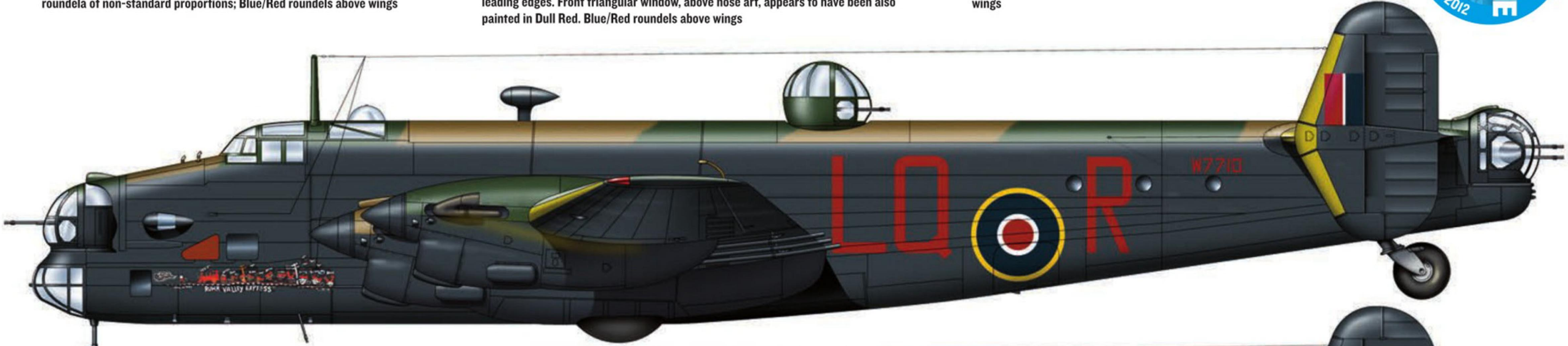
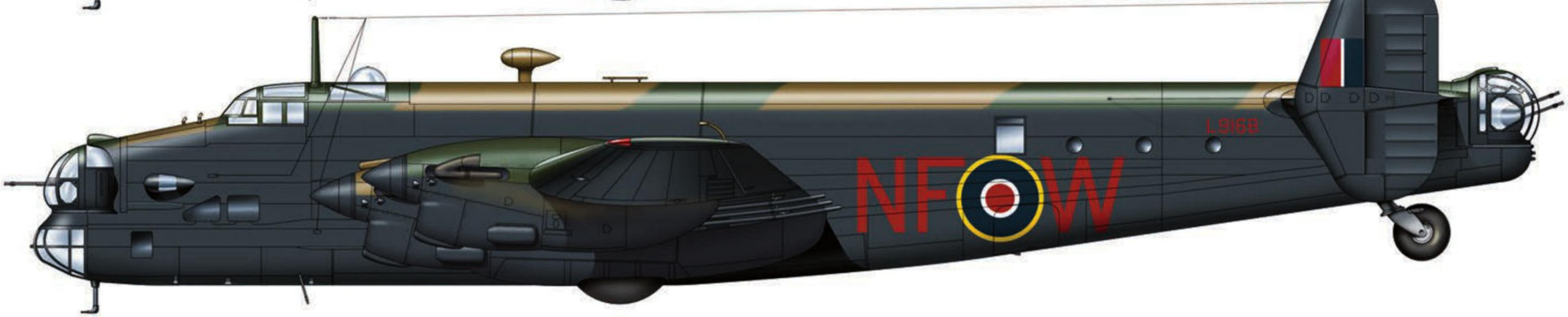
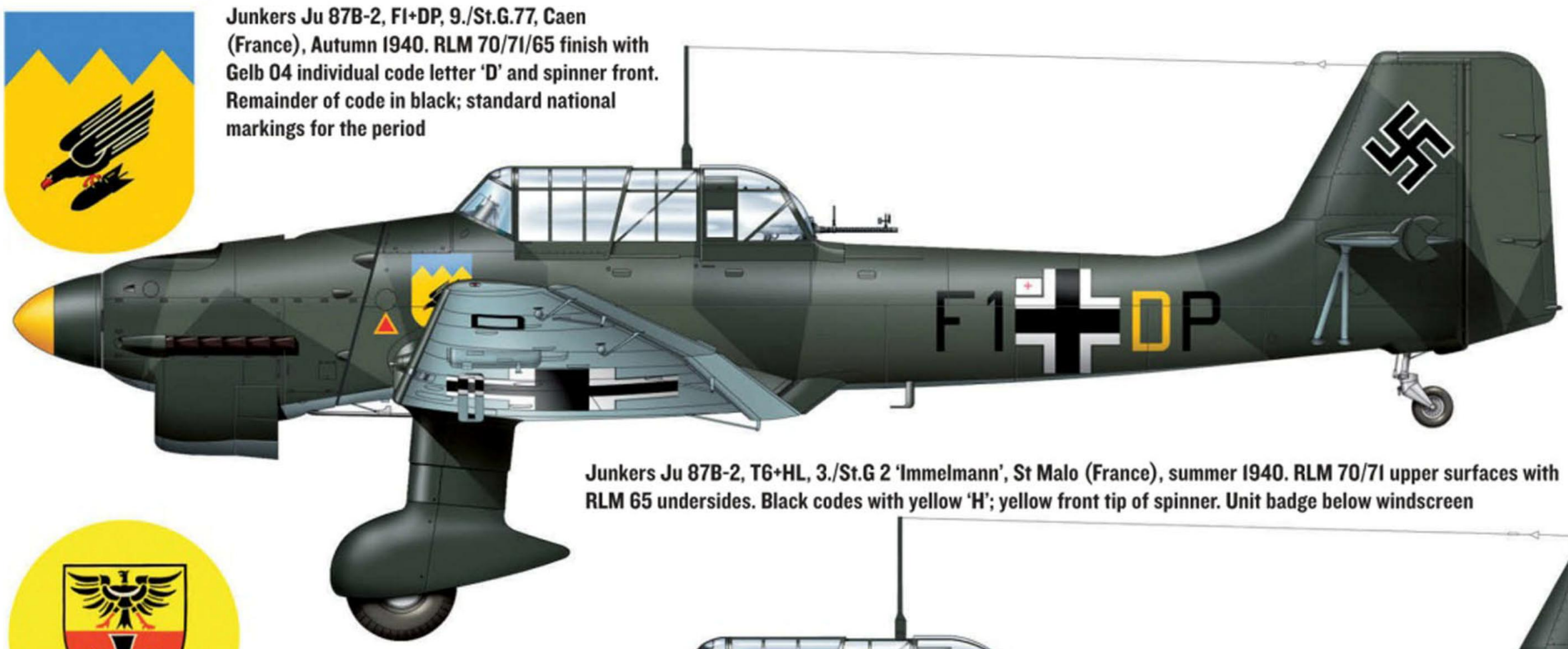


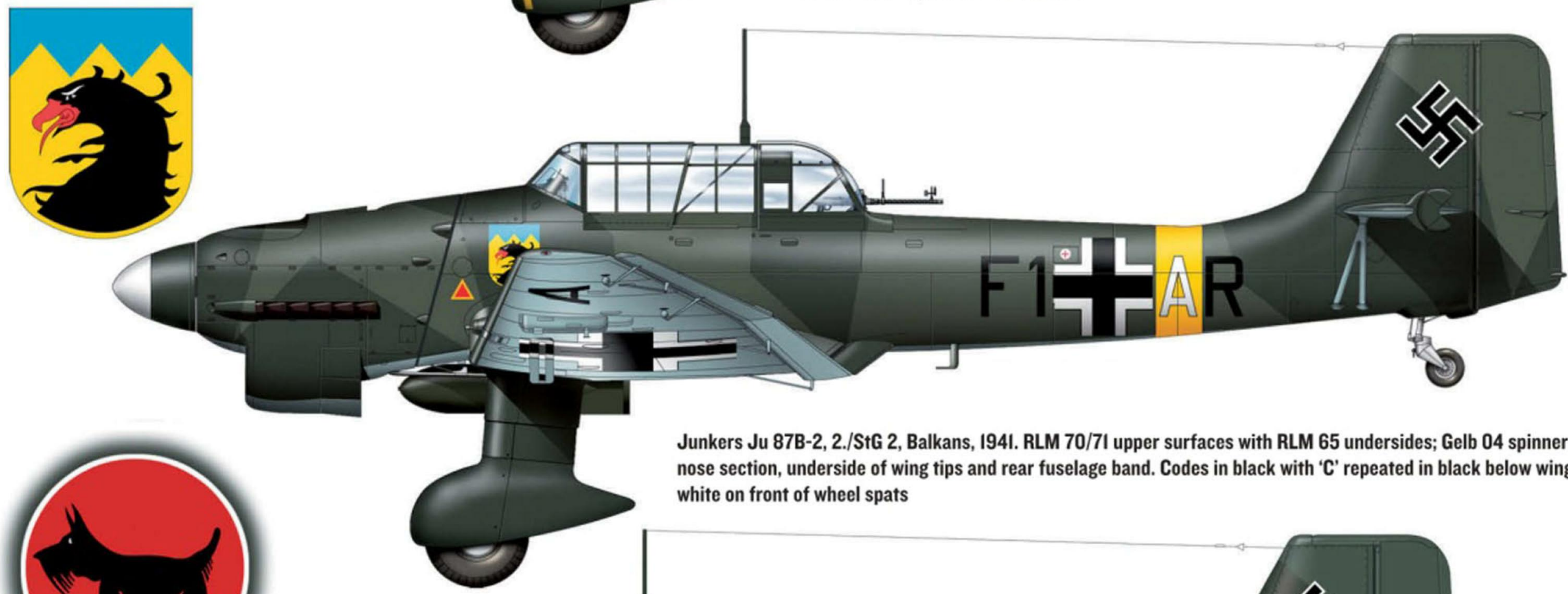



Junkers Ju 87B-2, F1+DP, 9./St.G.77, Caen (France), Autumn 1940. RLM 70/71/65 finish with Gelb 04 individual code letter 'D' and spinner front. Remainder of code in black; standard national markings for the period

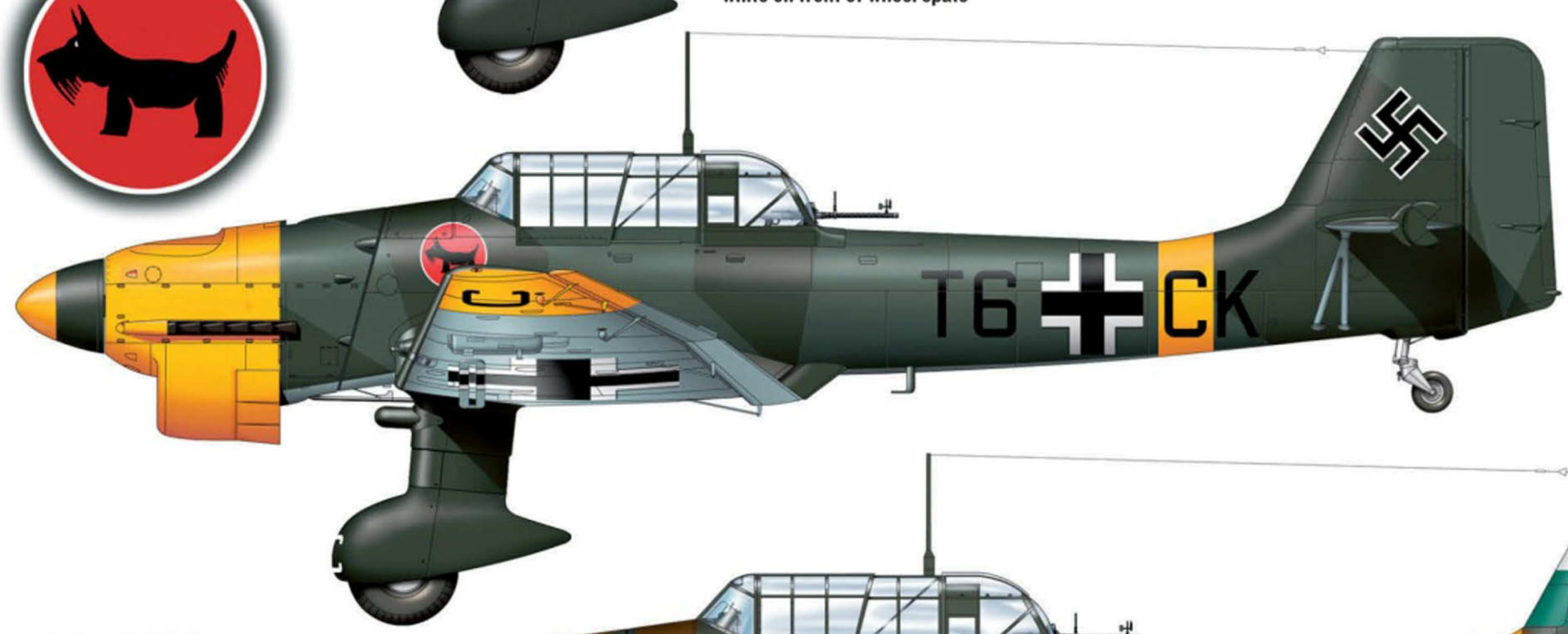



Junkers Ju 87B-2, T6+HL, 3./St.G 2 'Immelmann', St Malo (France), summer 1940. RLM 70/71 upper surfaces with RLM 65 undersides. Black codes with yellow 'H'; yellow front tip of spinner. Unit badge below windscreen

Junkers Ju 87B-2, F1+AR, 7./St.G 77, Russia, 1941. RLM 70/71 upper surfaces with RLM 65 undersides. Yellow fuselage band. Black codes with white 'A' (outlined in white). White spinner front. Unit badge below windscreen



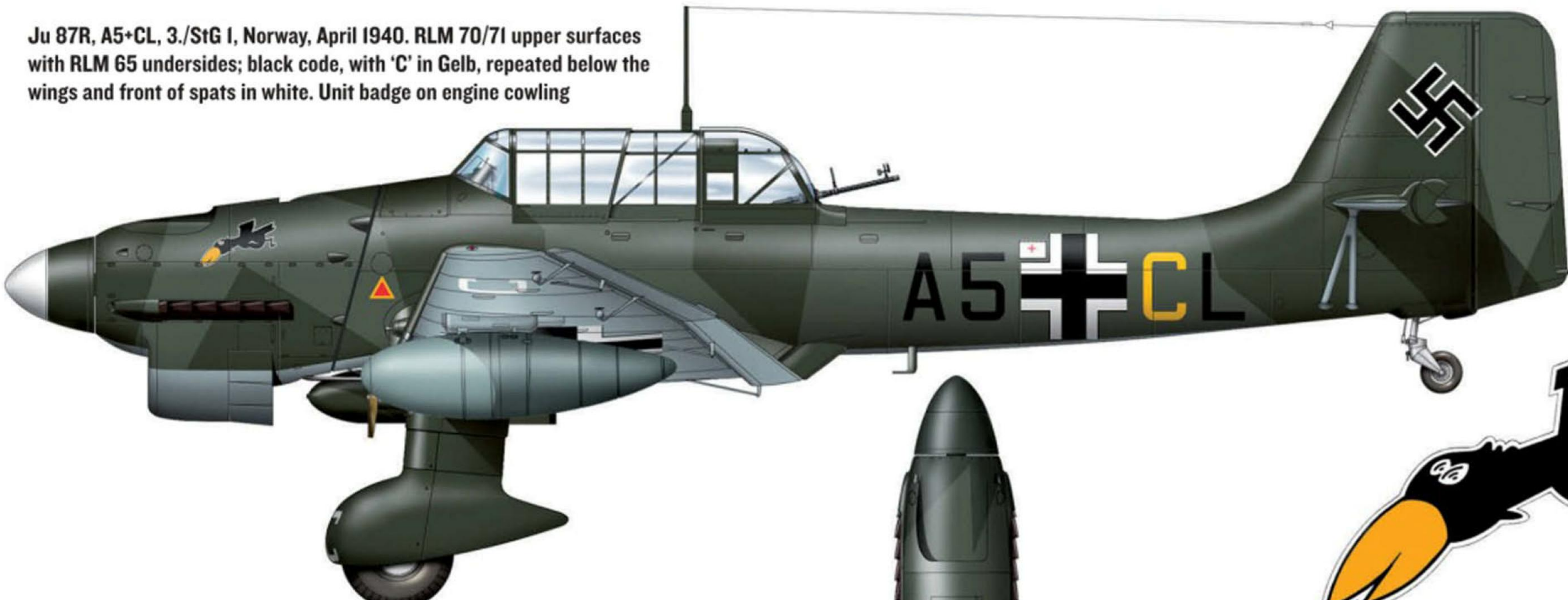

Junkers Ju 87B-2, 2./StG 2, Balkans, 1941. RLM 70/71 upper surfaces with RLM 65 undersides; Gelb 04 spinner front, nose section, underside of wing tips and rear fuselage band. Codes in black with 'C' repeated in black below wingtips and in white on front of wheel spats

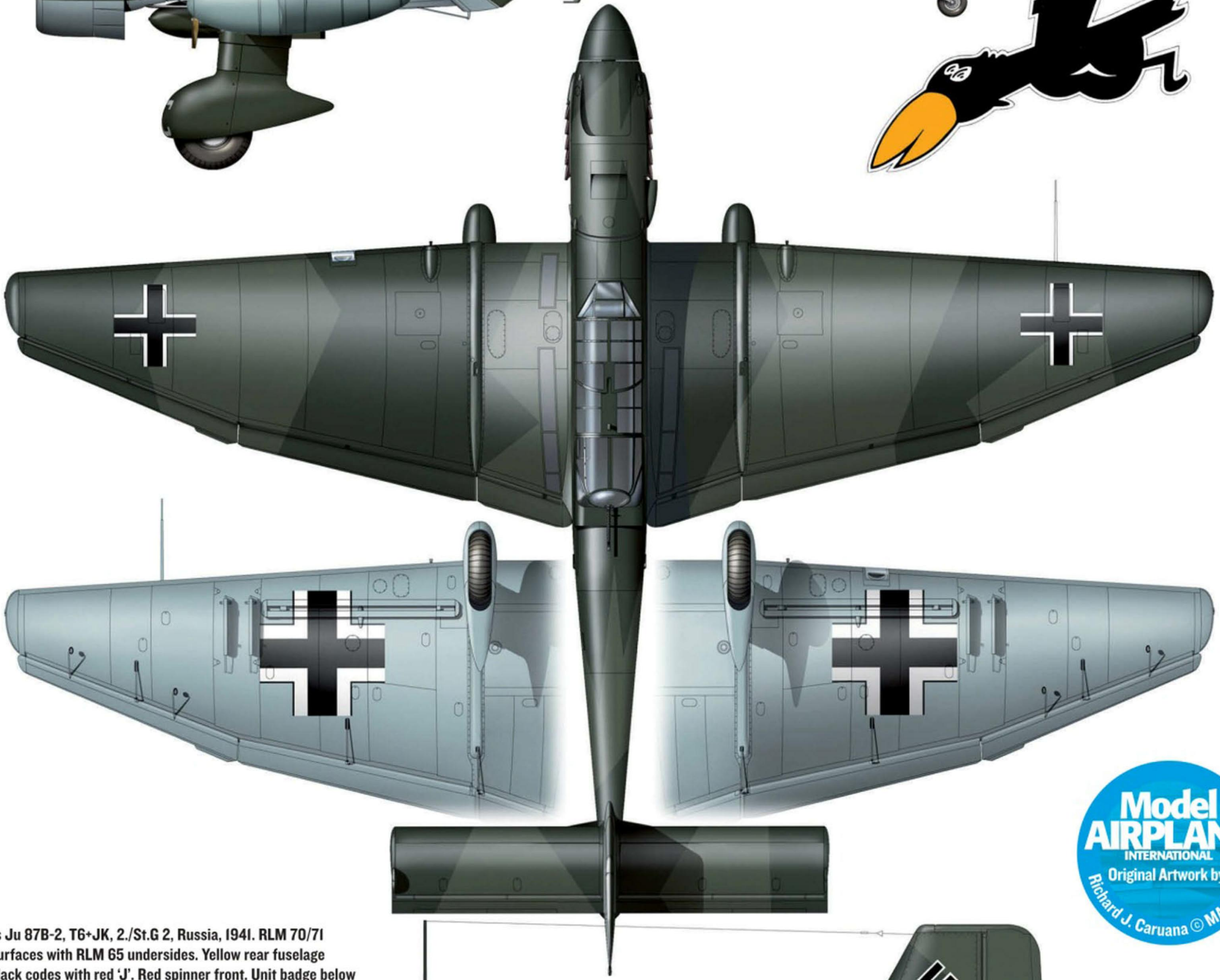


Junkers Ju 87B-2, B.6+02, 2/2 Zubo század, Jasionka (Russia), November 1943. RLM 26/71 upper surfaces with RLM 76 undersides; Yellow undersides of wing tips and rear fuselage band. National markings in six positions with red/white/green bands across vertical and horizontal tail surfaces; codes in black

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

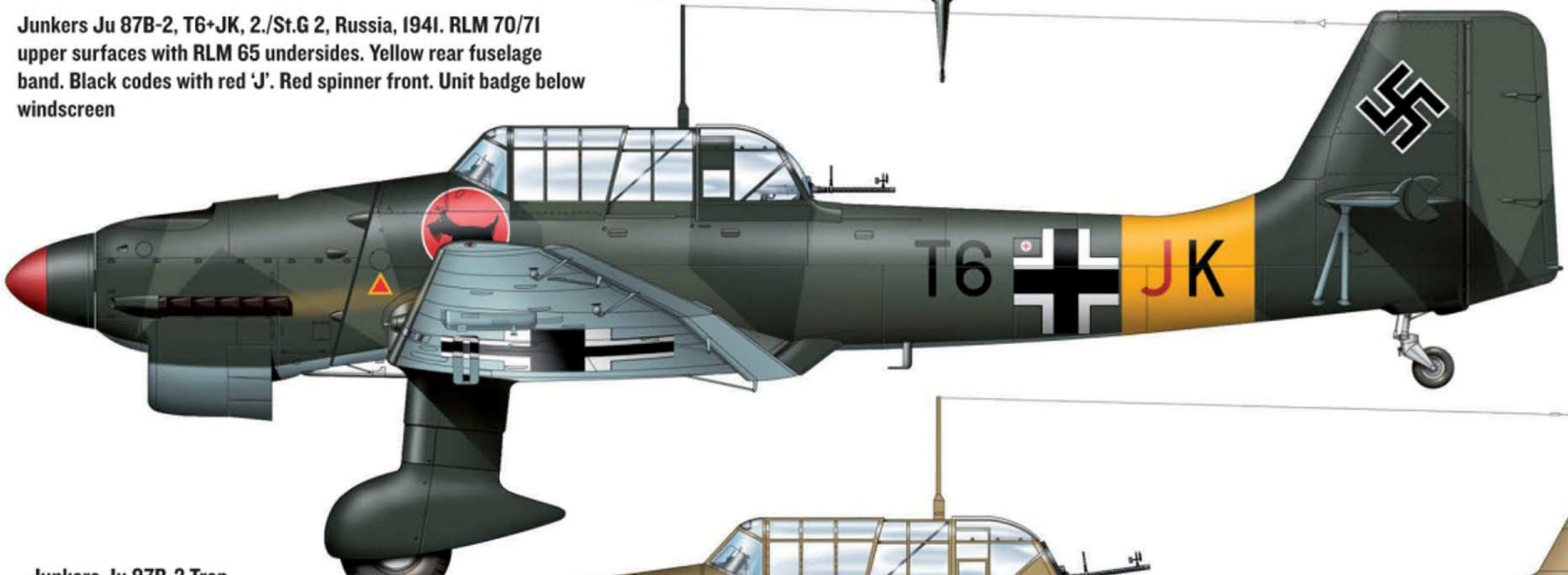
Ju 87R, A5+CL, 3./StG I, Norway, April 1940. RLM 70/71 upper surfaces with RLM 65 undersides; black code, with 'C' in Gelb, repeated below the wings and front of spats in white. Unit badge on engine cowling



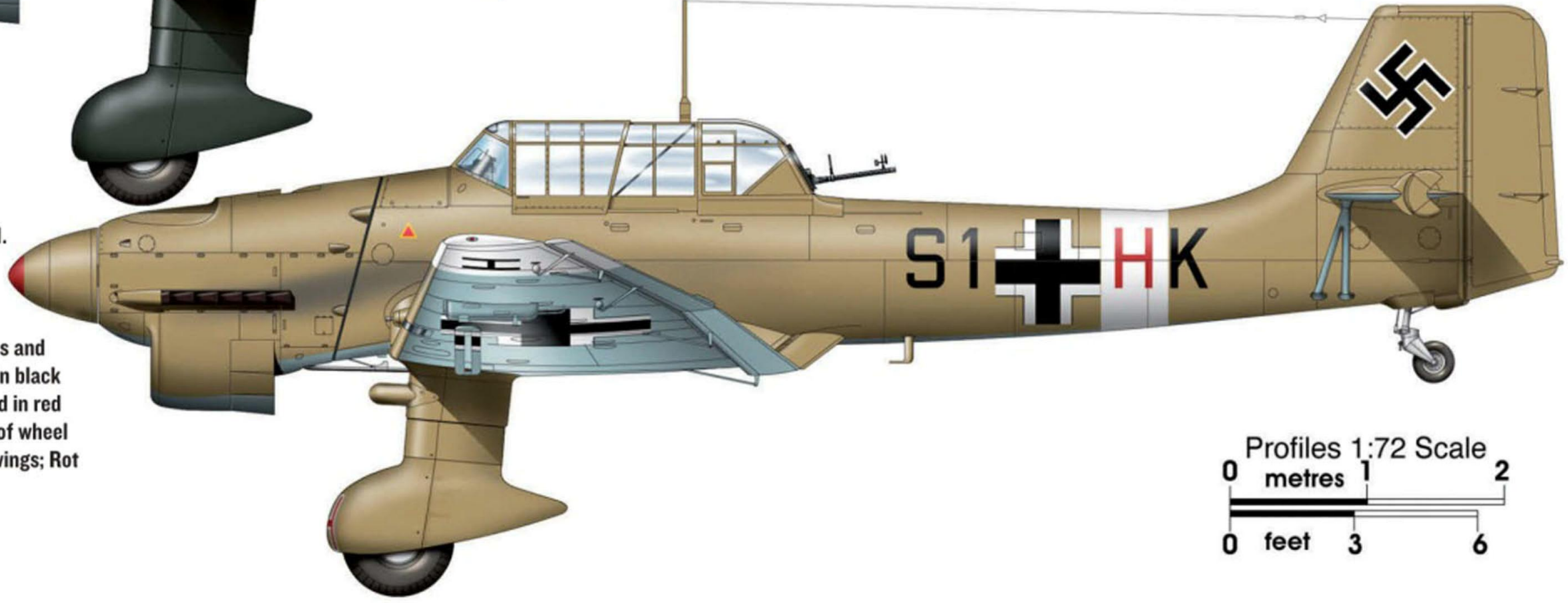



Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

Junkers Ju 87B-2, T6+JK, 2./St.G 2, Russia, 1941. RLM 70/71 upper surfaces with RLM 65 undersides. Yellow rear fuselage band. Black codes with red 'J'. Red spinner front. Unit badge below windscreen




Junkers Ju 87B-2 Trop, S1+HK, 2./StG 3, Derna, North Africa, summer 1941. RLM 70/71 top surfaces overpainted in RLM 78 Sandgelb with RLM 65 undersides; white wing tips and rear fuselage band. Code in black with 'H' in Rot 23, repeated in red outlined in white on front of wheel spats and in black below wings; Rot 23 front of spinner

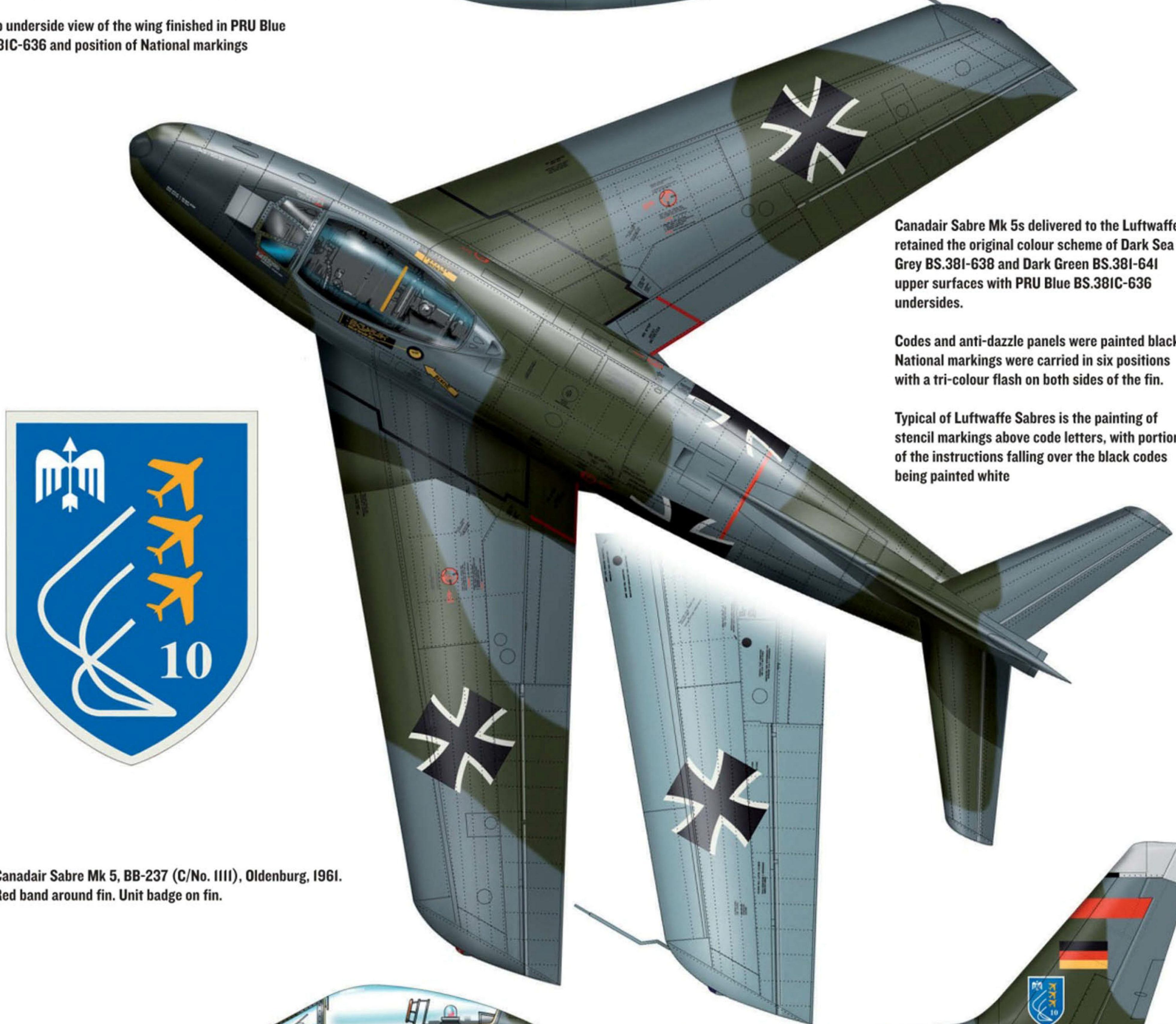



Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

Canadair Sabre Mk 5, BB-112 (C/No. 819), I./WaSLw 10, Saragossa, 1959. White band across fin, black/white checks below fin flash

Below: Upper surface camouflage pattern for Canadair Sabre Mk 5s in Dark Sea Grey BS.381-638 and Dark Green BS.381-641

Scrap underside view of the wing finished in PRU Blue BS.381C-636 and position of National markings



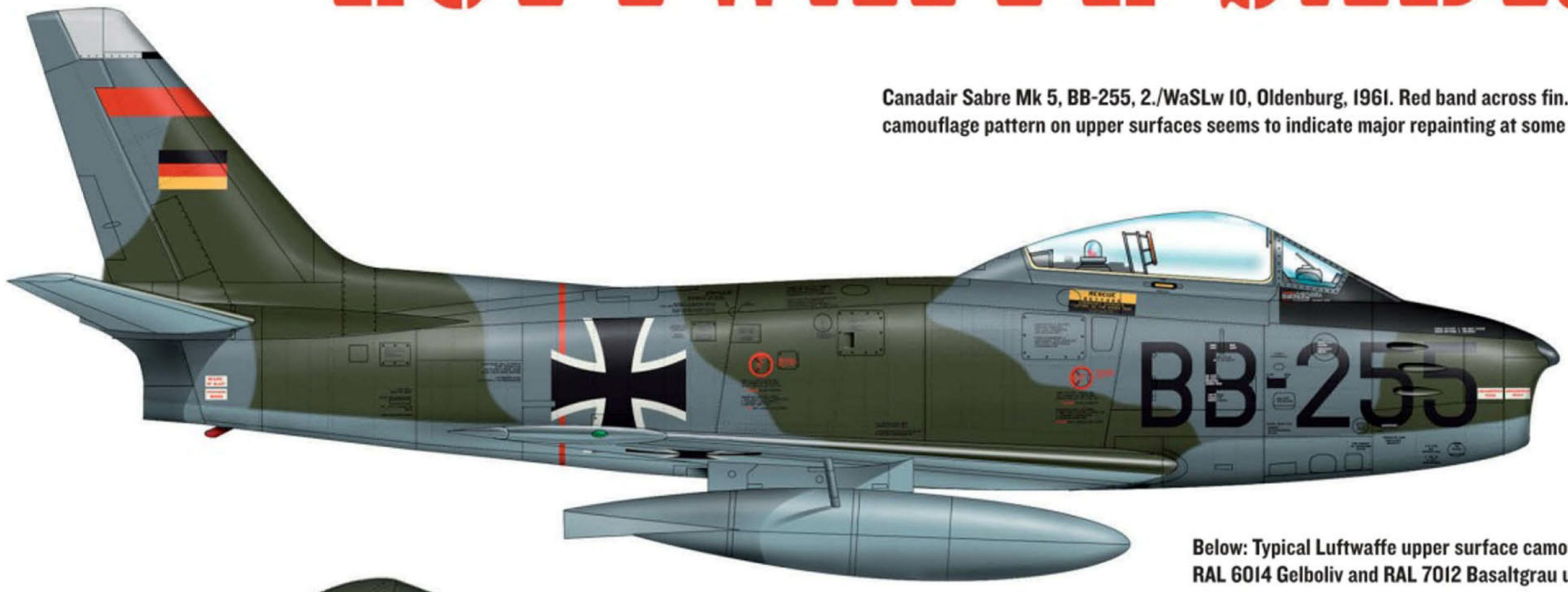

Canadair Sabre Mk 5s delivered to the Luftwaffe retained the original colour scheme of Dark Sea Grey BS.381-638 and Dark Green BS.381-641 upper surfaces with PRU Blue BS.381C-636 undersides.

Codes and anti-dazzle panels were painted black. National markings were carried in six positions with a tri-colour flash on both sides of the fin.

Typical of Luftwaffe Sabres is the painting of stencil markings above code letters, with portions of the instructions falling over the black codes being painted white

Canadair Sabre Mk 5, BB-237 (C/No. 1111), Oldenburg, 1961. Red band around fin. Unit badge on fin.

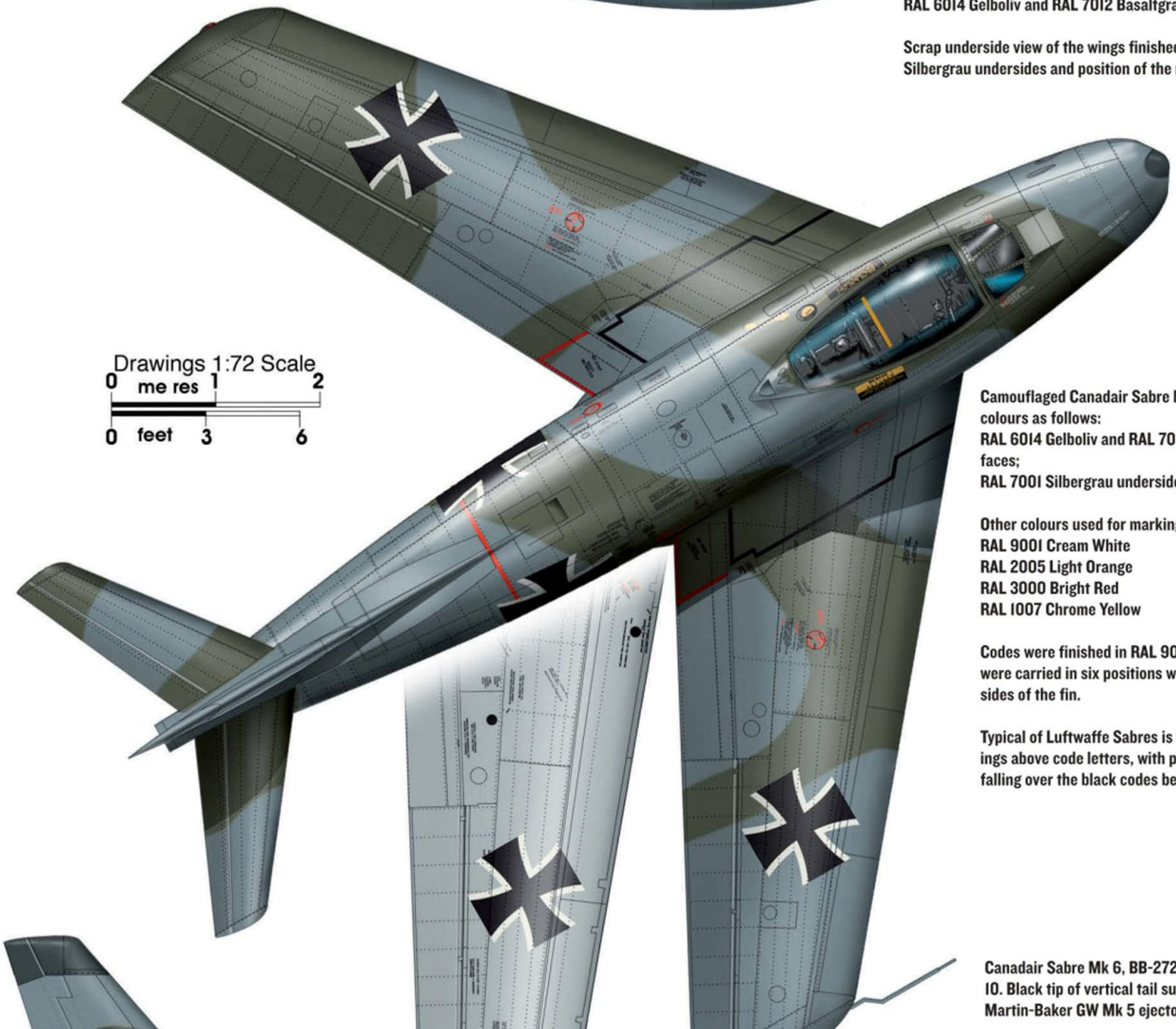
# LUFTWAFFE SABRES




Canadair Sabre Mk 5, BB-255, 2./WaSLw 10, Oldenburg, 1961. Red band across fin. Note non-standard camouflage pattern on upper surfaces seems to indicate major repainting at some time

Below: Typical Luftwaffe upper surface camouflage pattern in RAL 6014 Gelboliv and RAL 7012 Basaltgrau upper surfaces

Scrap underside view of the wings finished in RAL 7001 Silbergrau undersides and position of the national markings



Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

Drawings 1:72 Scale
0 metres 1 2
0 feet 3 6

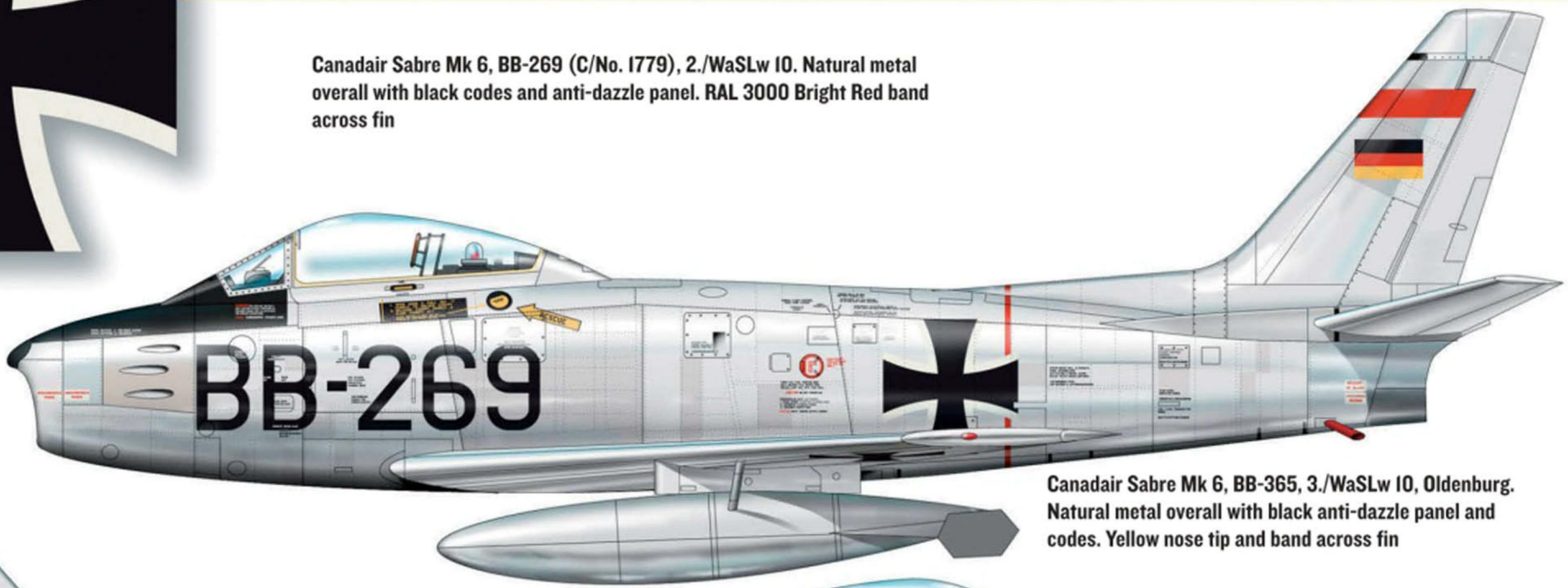
Camouflaged Canadair Sabre Mk 6s were finished in RAL colours as follows:
RAL 6014 Gelboliv and RAL 7012 Basaltgrau upper surfaces;
RAL 7001 Silbergrau undersides

Other colours used for markings included :
RAL 9001 Cream White
RAL 2005 Light Orange
RAL 3000 Bright Red
RAL 1007 Chrome Yellow

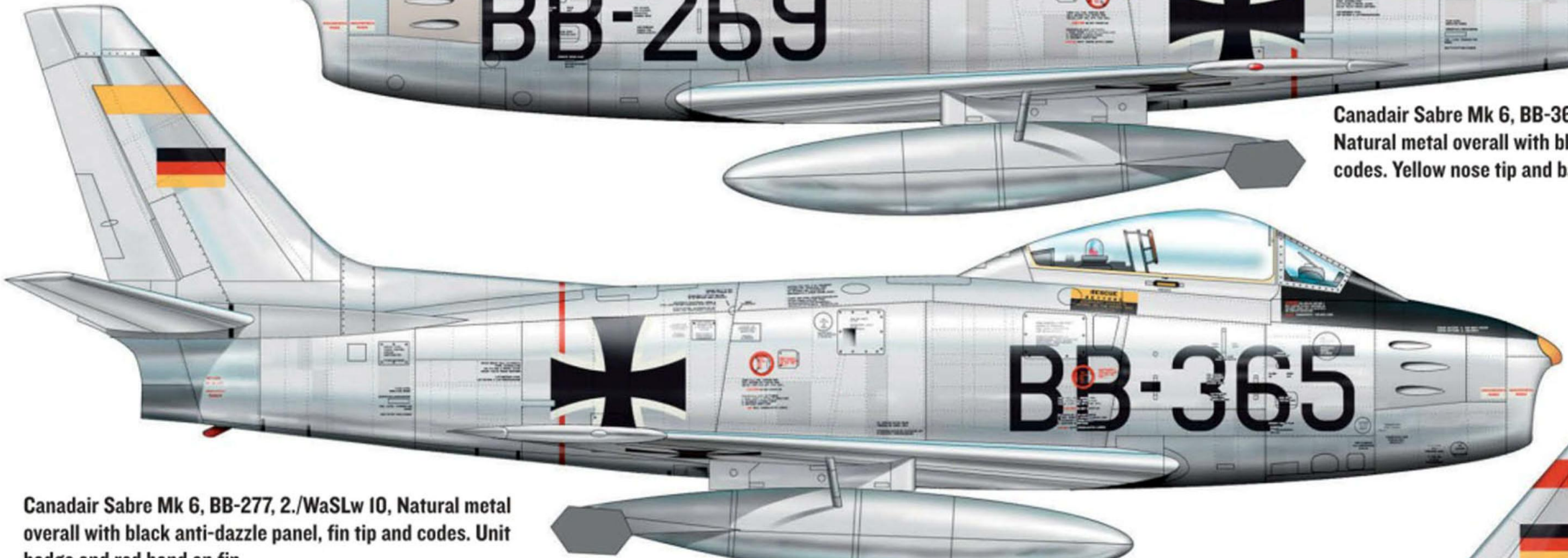
Codes were finished in RAL 9005 Black. National markings were carried in six positions with a tri-colour flash on both sides of the fin.

Typical of Luftwaffe Sabres is the painting of stencil markings above code letters, with portions of the instructions falling over the black codes being painted white

Canadair Sabre Mk 6, BB-272 (C/No. 1764), WaSLw 10. Black tip of vertical tail surfaces. Unit badge on fin. Martin-Baker GW Mk 5 ejector seat fitted

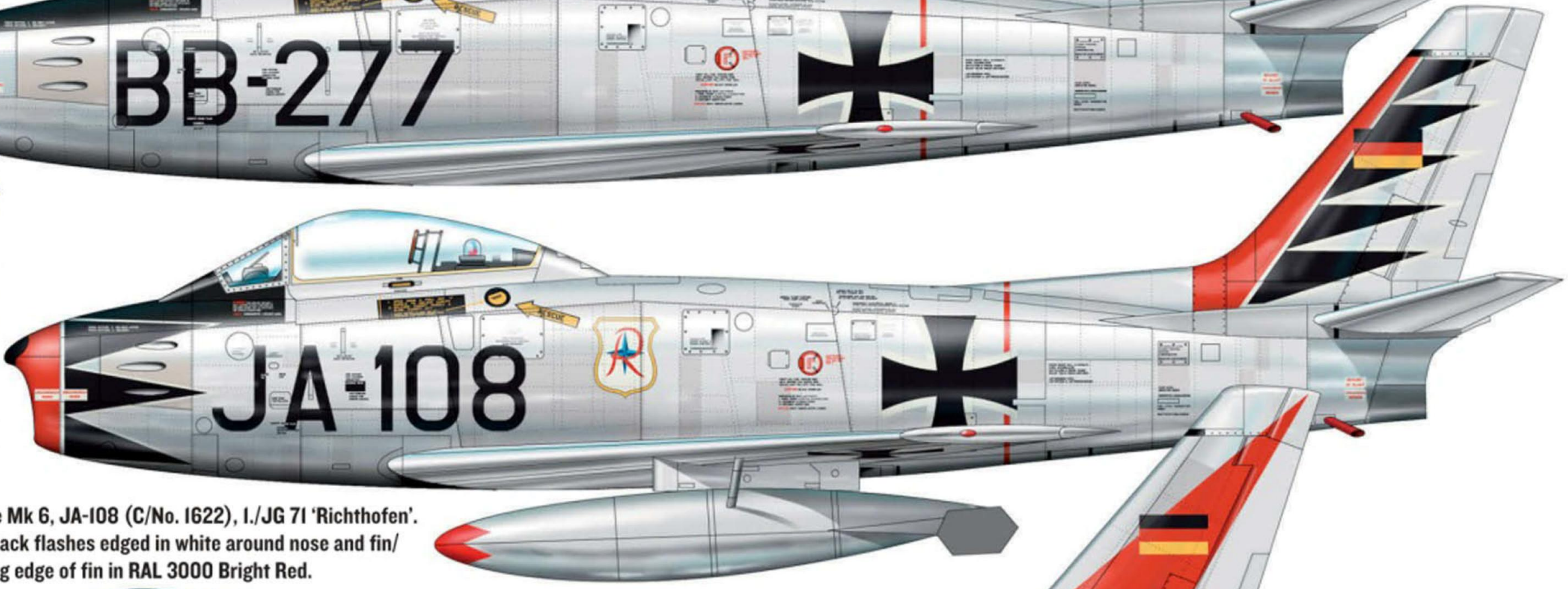



Canadair Sabre Mk 6, BB-269 (C/No. 1779), 2./WaSLw 10. Natural metal overall with black codes and anti-dazzle panel. RAL 3000 Bright Red band across fin

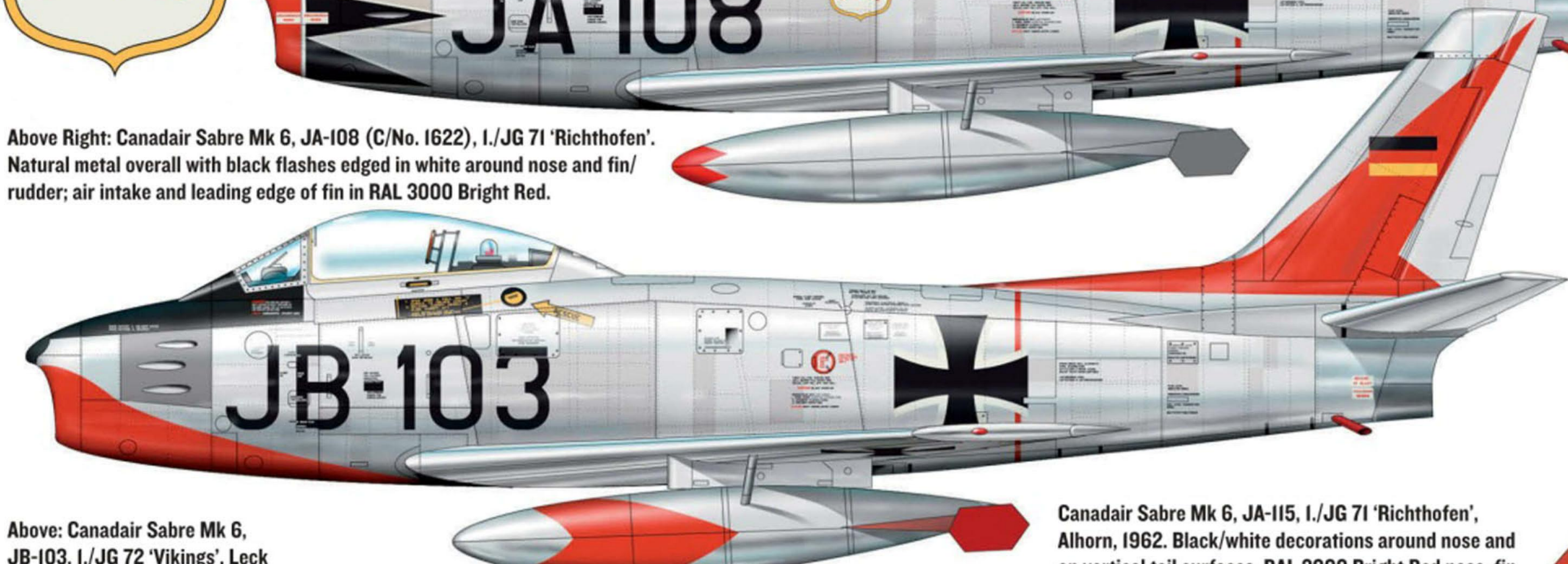



Canadair Sabre Mk 6, BB-365, 3./WaSLw 10, Oldenburg. Natural metal overall with black anti-dazzle panel and codes. Yellow nose tip and band across fin

Canadair Sabre Mk 6, BB-277, 2./WaSLw 10, Natural metal overall with black anti-dazzle panel, fin tip and codes. Unit badge and red band on fin




Above Right: Canadair Sabre Mk 6, JA-108 (C/No. 1622), I./JG 71 'Richthofen'. Natural metal overall with black flashes edged in white around nose and fin/rudder; air intake and leading edge of fin in RAL 3000 Bright Red.




Above: Canadair Sabre Mk 6, JB-103, I./JG 72 'Vikings', Leck 1962. Natural metal overall with Black anti-dazzle panel and codes; note that the panel below the 'Danger' arrow seems to be a replacement as it does not match the top of number '3'. RAL 3000 Bright Red trim to nose, vertical tail surfaces and underwing tank

Canadair Sabre Mk 6, JA-115, I./JG 71 'Richthofen', Alhorn, 1962. Black/white decorations around nose and on vertical tail surfaces. RAL 3000 Bright Red nose, fin leading edge and underwing tank front tip

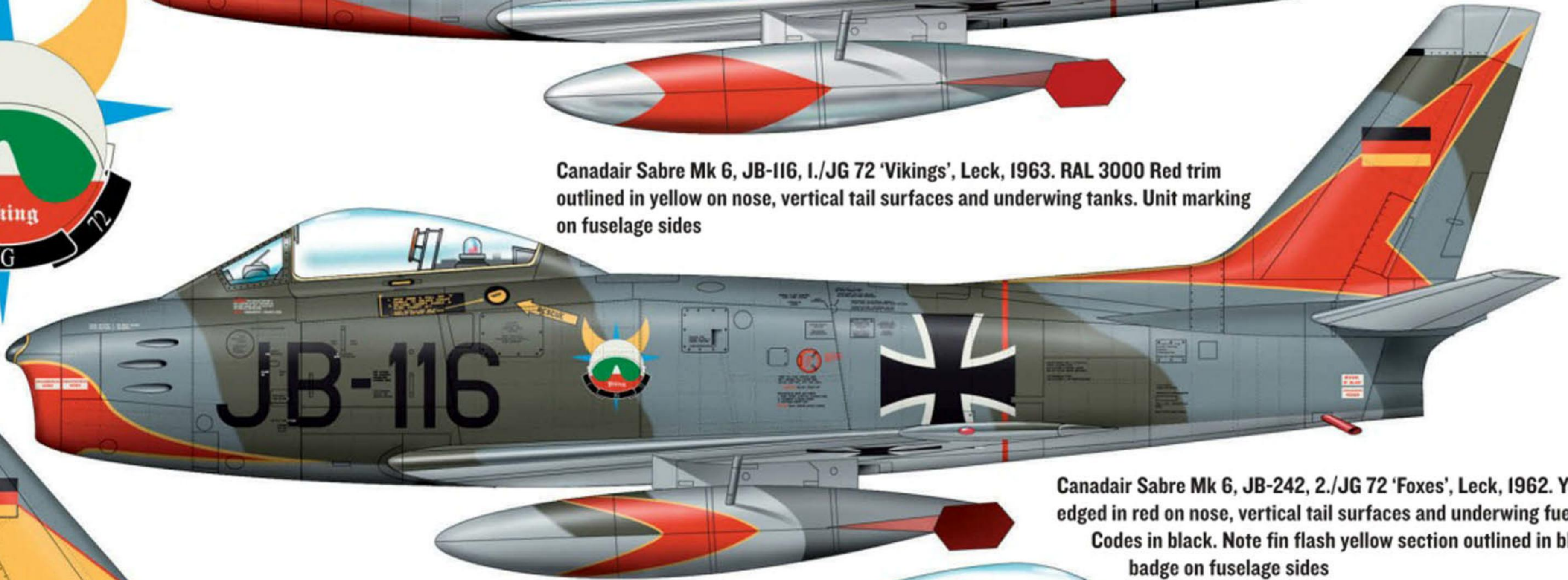
# LUFTWAFFE SABRES

Canadair Sabre Mk 6, JA-239, 2./JG 71 'Richtoghfen', 1963. Black white decorations around nose and on vertical tail surfaces. Front of air intake, leading edge of fin and front of underwing tanks in RAL 1007 Chrome Yellow

Canadair Sabre Mk 6, JA-241 (C/No.1727), 2./JG 71 'Richthofen'. Natural metal overall with black flashes edged in white around nose and fin/rudder. Air intake and leading edge of fin in RAL 1007 Chrome Yellow

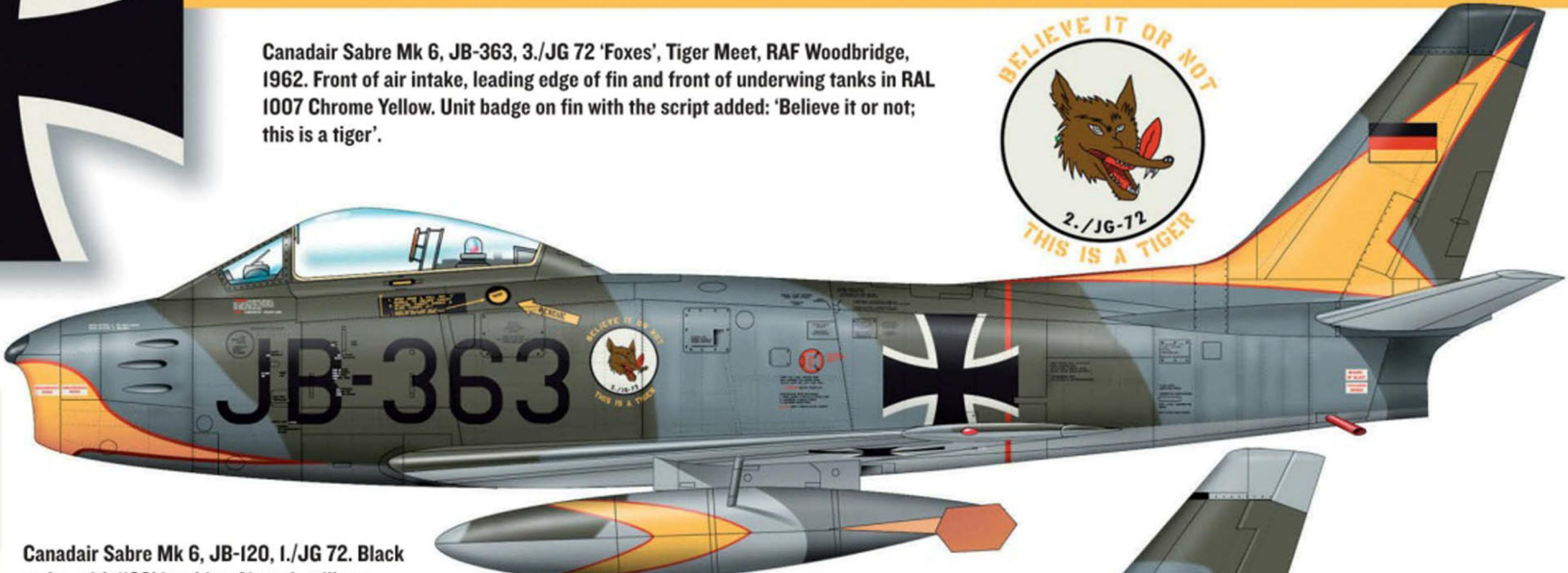
Canadair Sabre Mk 6, JA-344. 3./JG 71 'Richtghofen', Alhorn, 1964. Front of air intake, fin leading edge and front of underwing tanks in RAL 1007 Chrome Yellow. Black top of fin. Unit badge on fuselage sides. Note early 'tulip' design around nose

Canadair Sabre Mk 6, JB-121, I./JG 72 'Vikings', Leck 1962. Natural metal overall with Black anti-dazzle panel and codes. RAL 3000 Bright Red trim to nose, vertical tail surfaces and underwing tank. Unit badge on fuselage sides

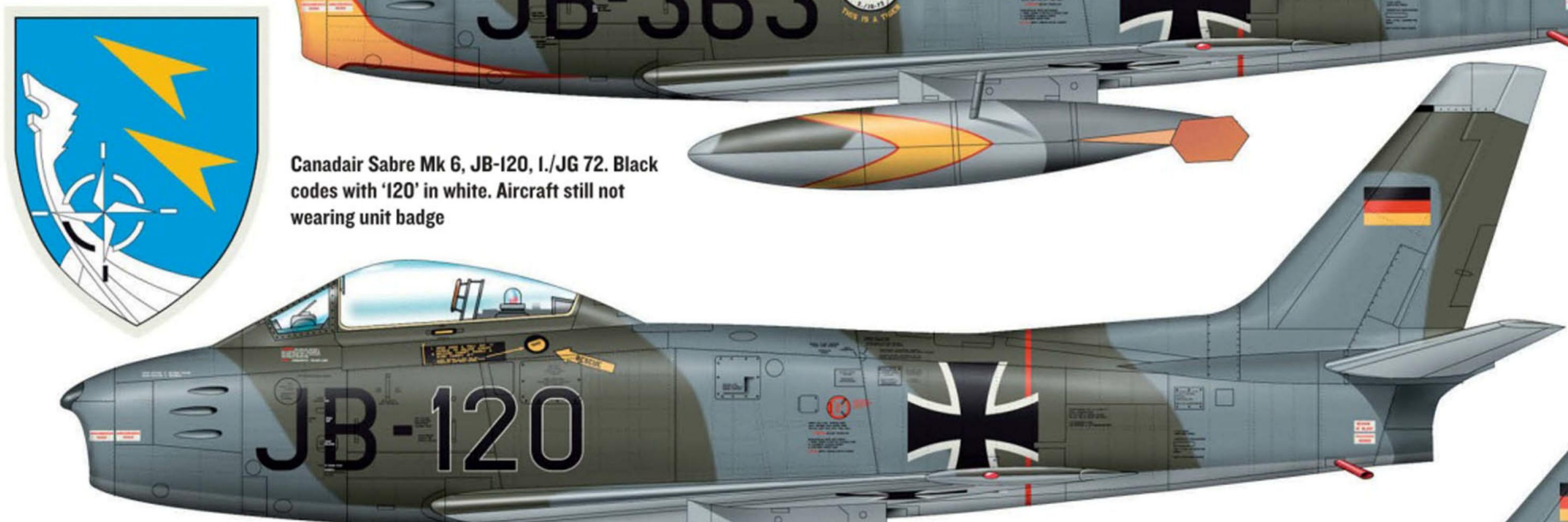



Canadair Sabre Mk 6, JB-116, I./JG 72 'Vikings', Leck, 1963. RAL 3000 Red trim outlined in yellow on nose, vertical tail surfaces and underwing tanks. Unit marking on fuselage sides

Canadair Sabre Mk 6, JB-242, 2./JG 72 'Foxes', Leck, 1962. Yellow trim edged in red on nose, vertical tail surfaces and underwing fuel tanks. Codes in black. Note fin flash yellow section outlined in black. Unit badge on fuselage sides




Canadair Sabre Mk 6, JB-363, 3./JG 72 'Foxes', Tiger Meet, RAF Woodbridge, 1962. Front of air intake, leading edge of fin and front of underwing tanks in RAL 1007 Chrome Yellow. Unit badge on fin with the script added: 'Believe it or not; this is a tiger'.




Canadair Sabre Mk 6, JB-120, 1./JG 72. Black codes with '120' in white. Aircraft still not wearing unit badge

Canadasir Sabre Mk 6, JB-105 (C/No. 1743), 3./JG 43, Leck 1961. Codes in black with '105' outlined in white. Unit badge on fuselage sides. Dark grey tip to vertical tail surfaces

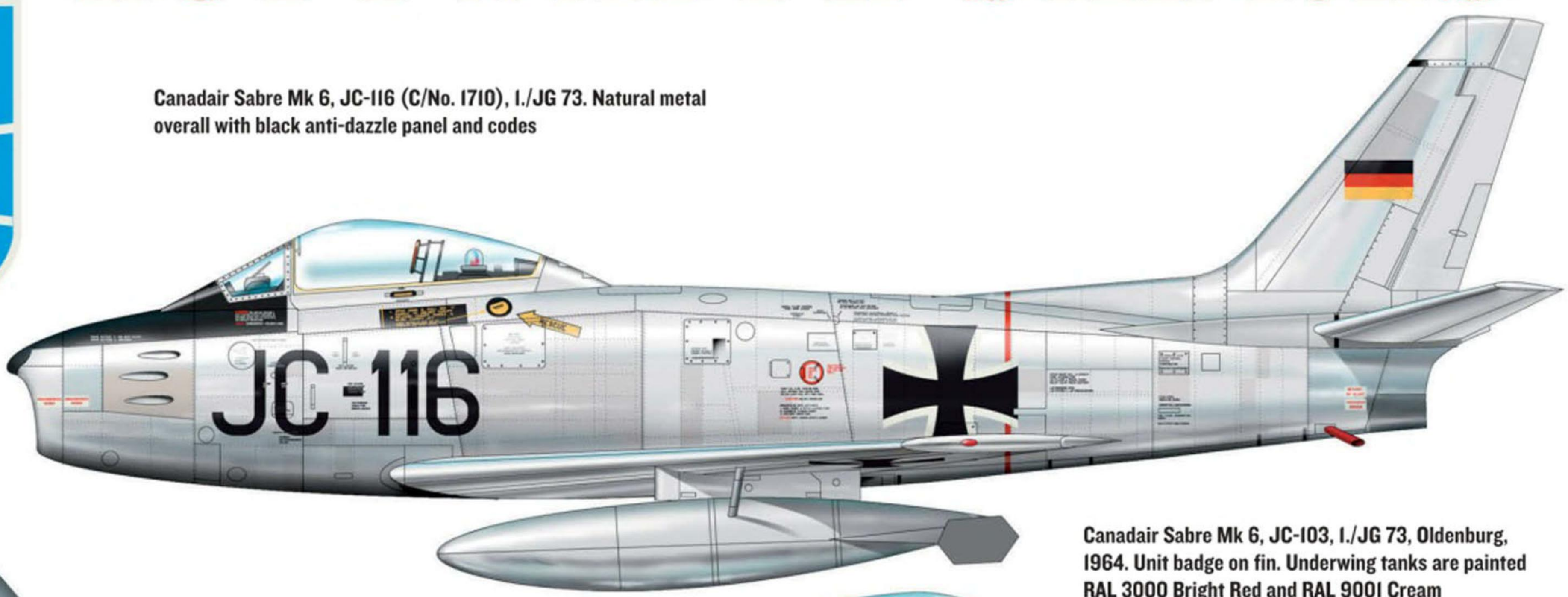
Canadair Sabre Mk 6, JB-246, 2./JG43. Codes in black, with '246' outlined in white. Unit badge on fuselage sides

Canadair Sabre Mk 6, JB-238 (C/No.1736), 2./JG 43, 1965. Codes in black with '238' outlined in white. Fin tip dark grey. Unit badge on fuselage sides. Martin-Baker GW Mk 5 ejection seat fitted

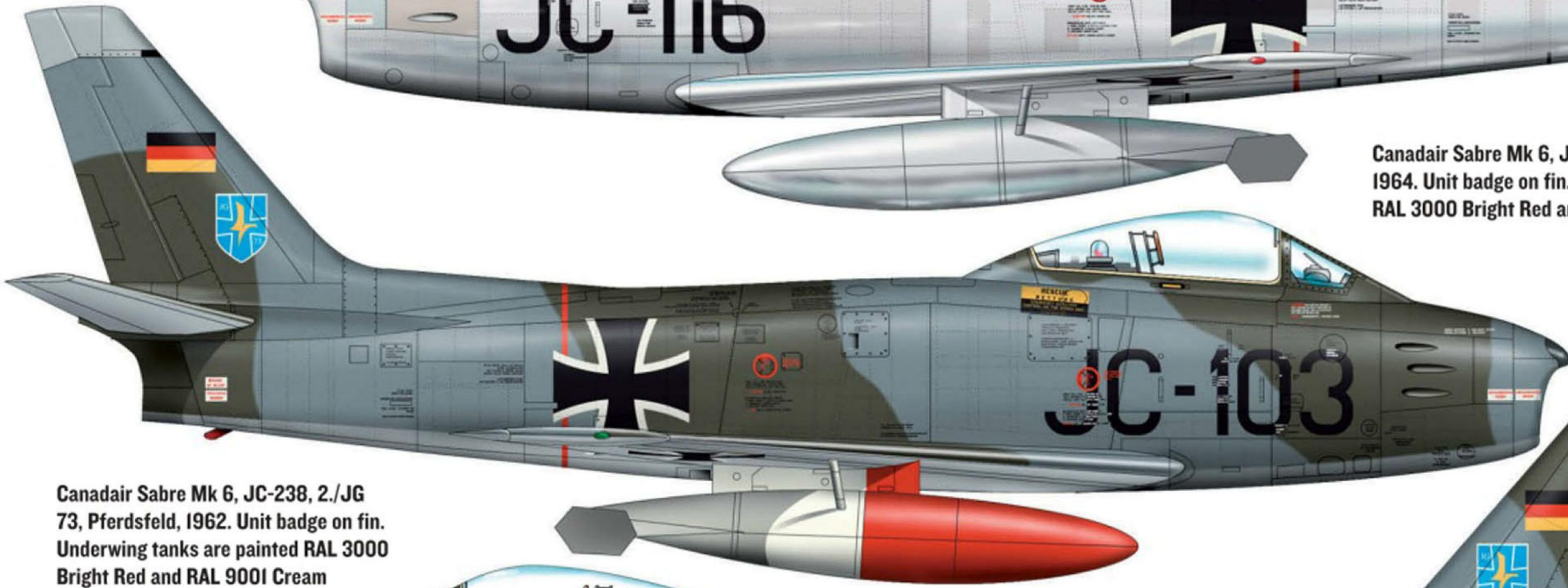
Canadair Sabre Mk 6, JB-360, 3./JG 43, 1965. Codes in black with '360' outlined in white. Fin tip dark grey. Unit badge on fuselage sides. Martin-Baker GW Mk 5 ejection seat fitted

# LUFTWAFFE SABRES

Canadair Sabre Mk 6, JC-116 (C/No. 1710), I./JG 73. Natural metal overall with black anti-dazzle panel and codes




Canadair Sabre Mk 6, JC-103, I./JG 73, Oldenburg, 1964. Unit badge on fin. Underwing tanks are painted RAL 3000 Bright Red and RAL 9001 Cream




Canadair Sabre Mk 6, JC-238, 2./JG 73, Pferdsfeld, 1962. Unit badge on fin. Underwing tanks are painted RAL 3000 Bright Red and RAL 9001 Cream

Canadair Sabre Mk 6, JC-374, 3./JG 73, 1964. . Black fin tip. Unit badge on fin. Underwing tanks are painted RAL 3000 Bright Red and RAL 9001 Cream

Canadair Sabre Mk 6, JD-111 (C/No. 1662), for I Staffel of the planned JG 74. Natural metal overall with black anti-dazzle panel and codes. Martin-Baker GW Mk 5 ejection seat fitted

Canadair Sabre Mk 6, JD-241 (C/No. 1639), for 2 Staffel of the planned JG 74. JG 74 markings lasted only till September 1960 when these aircraft were passed on to other units

# LUFTWAFFE SABRES

Canadair Sabre Mk 6, KE-105 (C/No. 1659), operated as chase aircraft during the Dornier VJ-101 trials, bearing Messereschmitt's works registration.

Canadair Sabre Mk 6, KE-104 (C/No. 1675) further down is another Sabre assigned for this task, is similarly finish but has its codes outlined in white

Canadair Sabre Mk 6, YA-041 (C/No. 1604), Erprobungsstelle 61, Manching 1967. RAL 2005 Light Orange nose. Martin-Baker GW Mk 5 ejection seat fitted

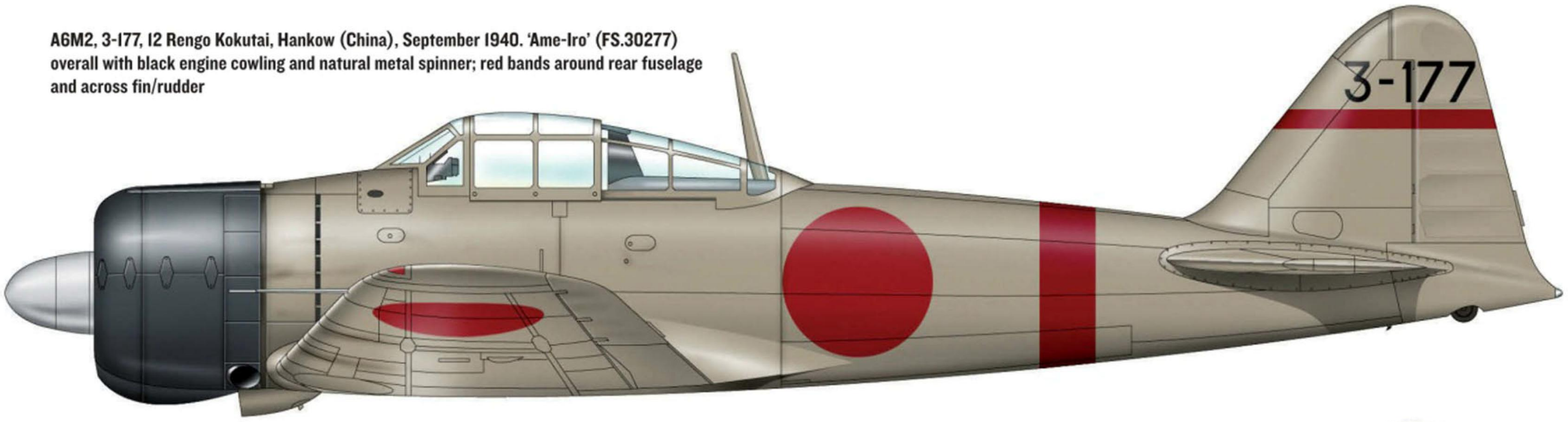
Canadair Sabre Mk 6, YA-047 (C/No. 1760), Erprobungsstelle 61, Manching 1967. RAL 2005 Light Orange nose and black codes outlined in white. Martin-Baker GW Mk 5 ejection seat fitted

Canadair Sabre Mk 6, 0103 (C/No. 1605), Est-61 Test Centre, Manching, July 1972. Black anti-dazzle panel. Black code on nose, outlined in white. Martin-Baker GW Mk 5 ejection seat fitted

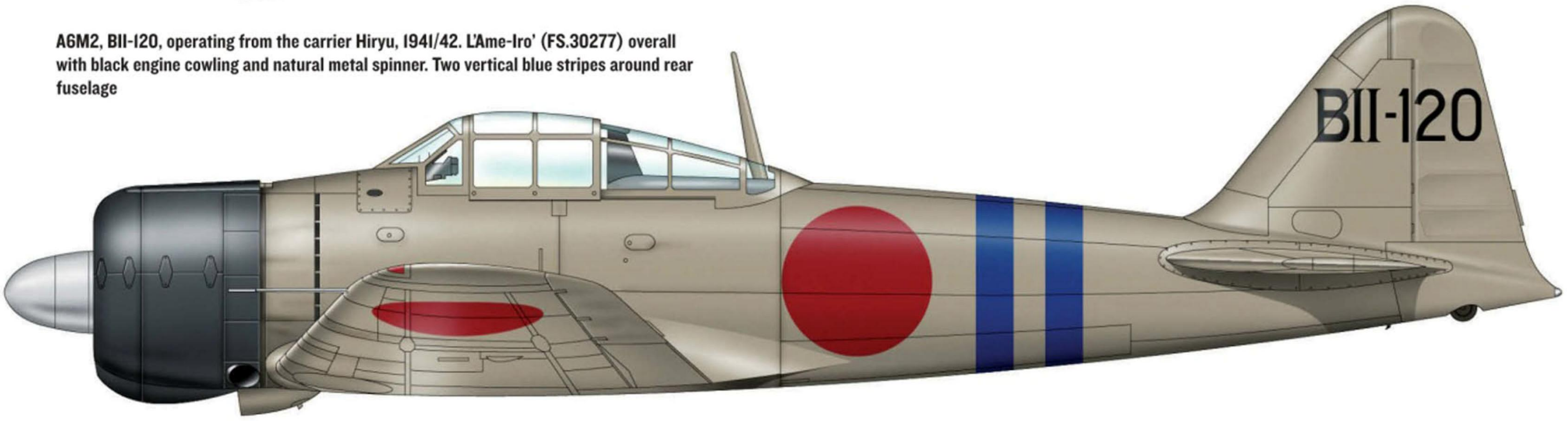
Canadair Sabre Mk 6, D-9523(C/No. 1784), of the target-towing flight operated by Condor, based at Sylt. RAL 6014 Gelboliv and RAL 7012 Basaltgrau upper surfaces with RAL 5014 Taubenblau undersides. RAL 2005 Leuchtorange nose, and bands around fuselage, fin/rudder and wintips. Note Martin-Baker GW Mk 5 ejection seat, beacon and blade aerials on fin and below forward fuselage

*With thanks to Andreas Klein of AirDOC for his assistance in the preparation of this feature*

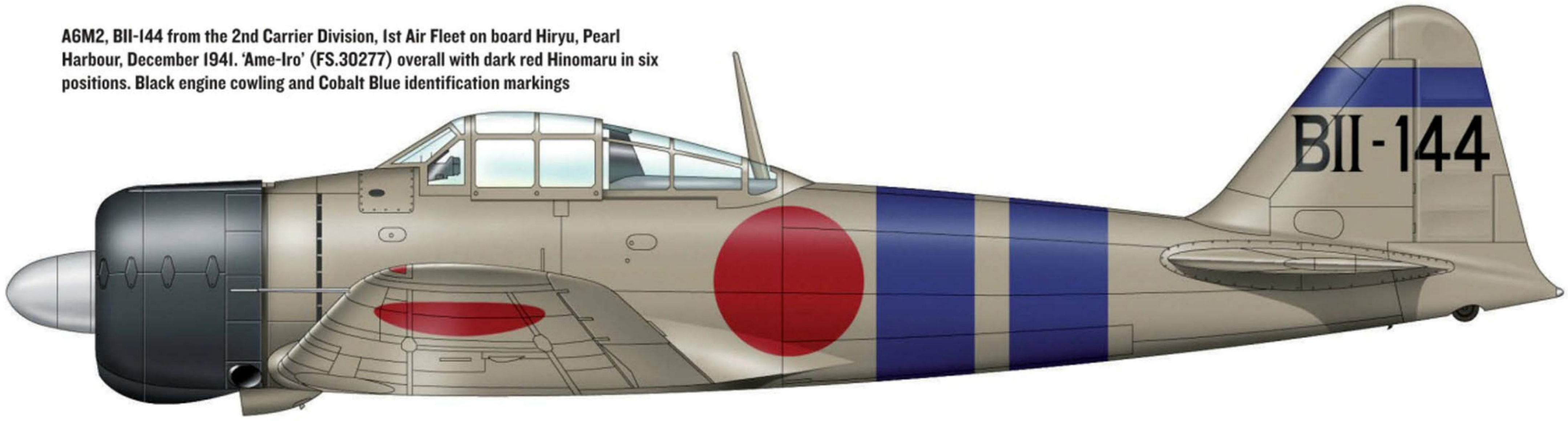
A6M2, 3-177, 12 Rengo Kokutai, Hankow (China), September 1940. 'Ame-Iro' (FS.30277) overall with black engine cowling and natural metal spinner; red bands around rear fuselage and across fin/rudder



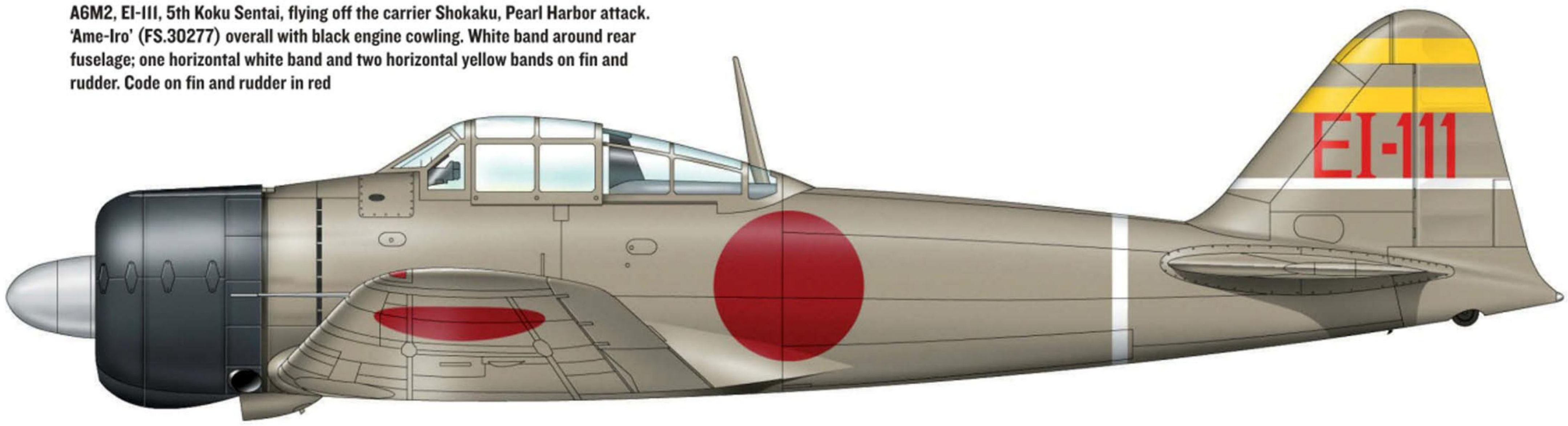

A6M2, BII-120, operating from the carrier Hiryu, 1941/42. L'Ame-Iro' (FS.30277) overall with black engine cowling and natural metal spinner. Two vertical blue stripes around rear fuselage



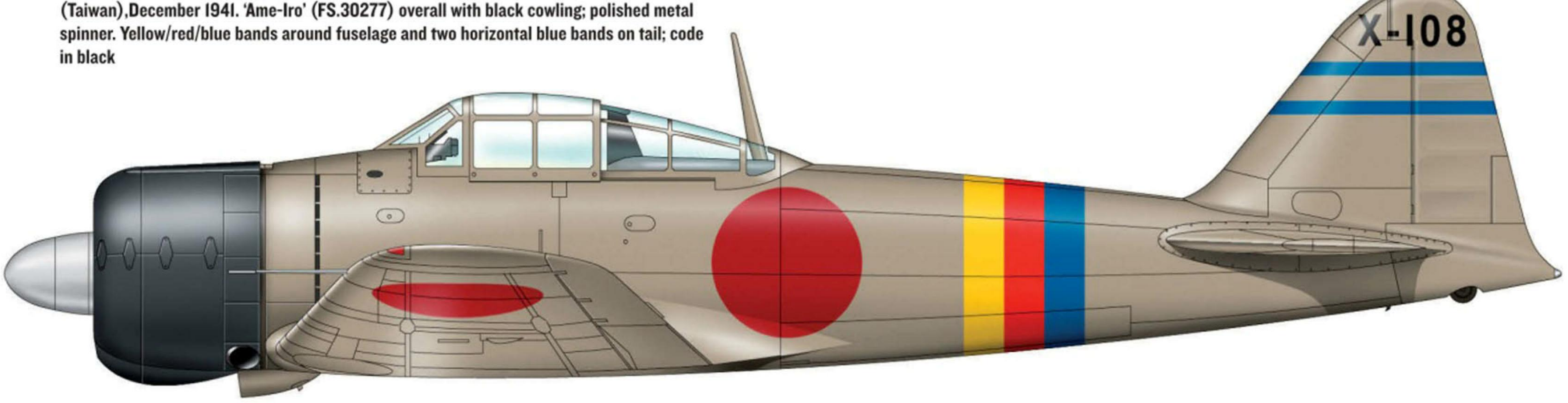

A6M2, BII-144 from the 2nd Carrier Division, 1st Air Fleet on board Hiryu, Pearl Harbour, December 1941. 'Ame-Iro' (FS.30277) overall with dark red Hinomaru in six positions. Black engine cowling and Cobalt Blue identification markings

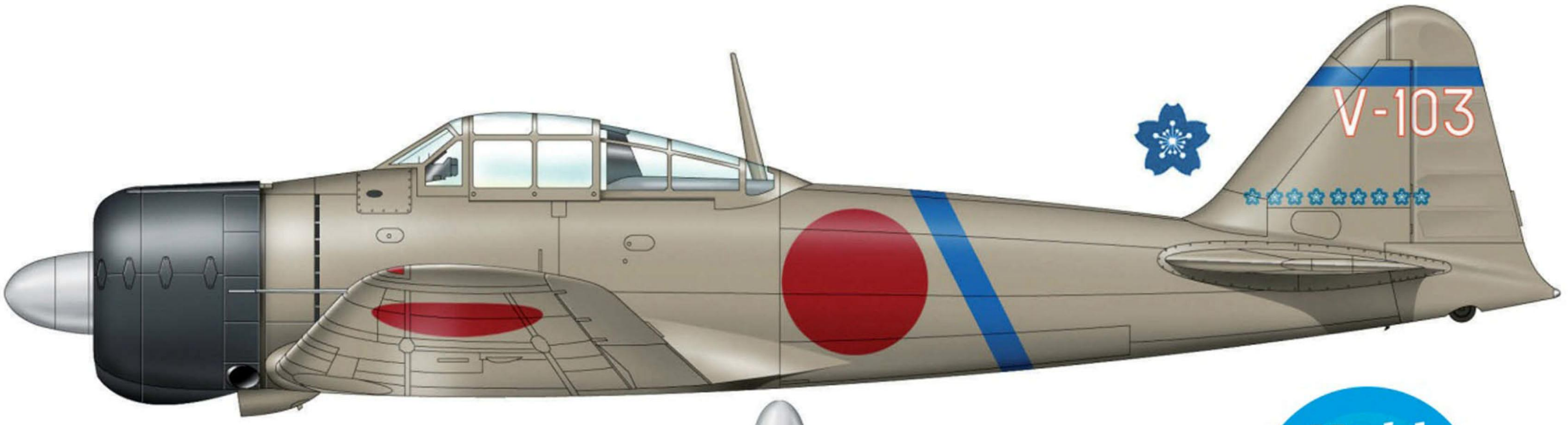



A6M2, EI-111, 5th Koku Sentai, flying off the carrier Shokaku, Pearl Harbor attack. 'Ame-Iro' (FS.30277) overall with black engine cowling. White band around rear fuselage; one horizontal white band and two horizontal yellow bands on fin and rudder. Code on fin and rudder in red




A6M2, X-108, flown by Group Commander Lt Tamotsu Yokoyama, 3rd Naval Air Group,Takao (Taiwan),December 1941. 'Ame-Iro' (FS.30277) overall with black cowling; polished metal spinner. Yellow/red/blue bands around fuselage and two horizontal blue bands on tail; code in black



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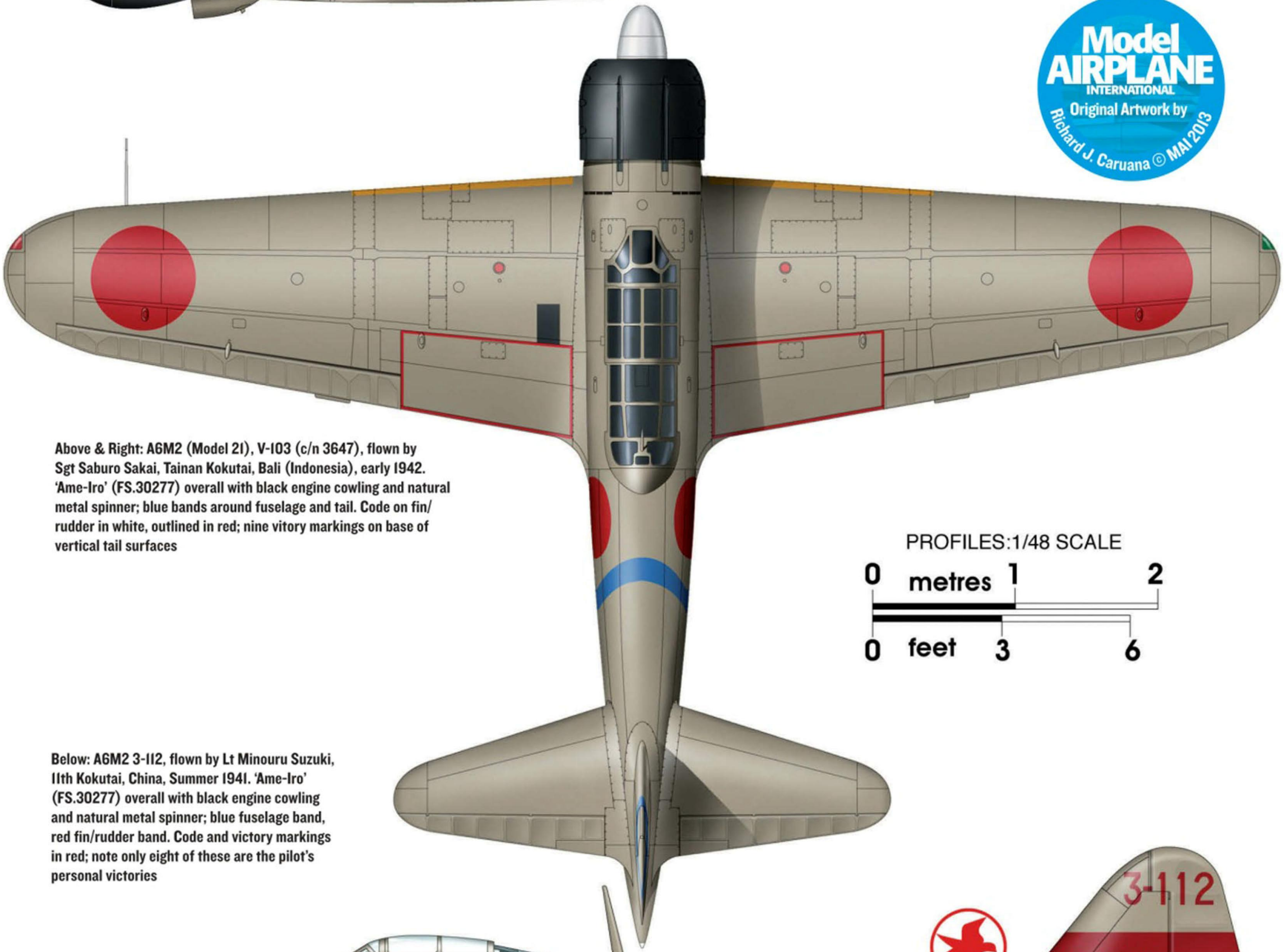
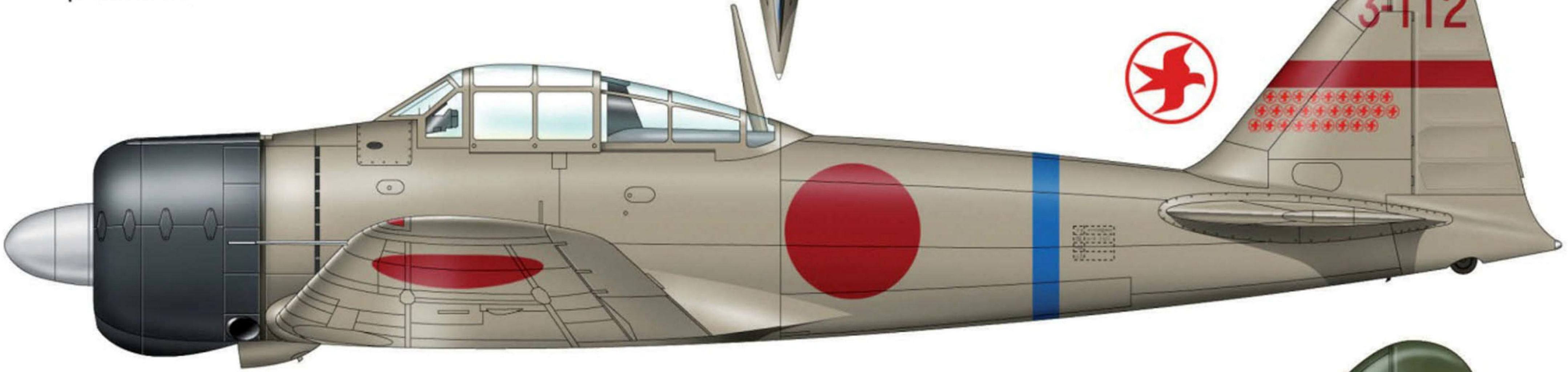


Above & Right: A6M2 (Model 21), V-103 (c/n 3647), flown by Sgt Saburo Sakai, Tainan Kokutai, Bali (Indonesia), early 1942. 'Ame-Iro' (FS.30277) overall with black engine cowling and natural metal spinner; blue bands around fuselage and tail. Code on fin/rudder in white, outlined in red; nine vitory markings on base of vertical tail surfaces

PROFILES:1/48 SCALE
0 metres 1 2
0 feet 3 6

Below: A6M2 3-112, flown by Lt Minouru Suzuki, 11th Kokutai, China, Summer 1941. 'Ame-Iro' (FS.30277) overall with black engine cowling and natural metal spinner; blue fuselage band, red fin/rudder band. Code and victory markings in red; note only eight of these are the pilot's personal victories




A6M2 Model 21, Kasumigaura Flying Group, Japan, 1943. Dark Green upper surfaces with Trainer Orange undersides; black engine cowling and natural metal spinner. Yellow band around fuselage and codes on fin; orange-yellow wingtip stripes

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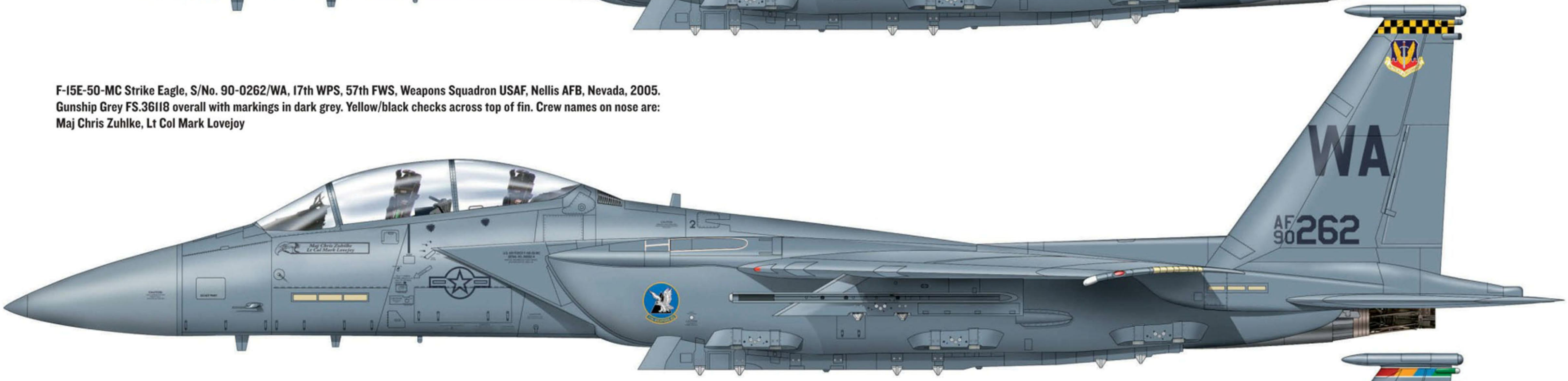
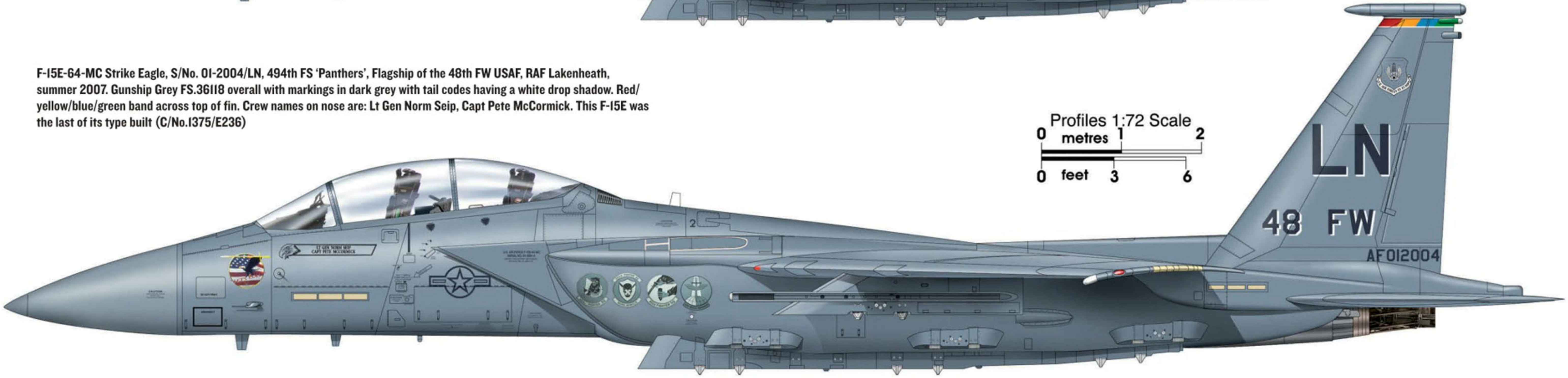
F-15E-43-MC Strike Eagle, S/No.87-0173/MO, 391st FS 'Thunderbolts', 366th FW USAF, 'Operation Enduring Freedom', 2002. Gunship Grey FS.36118 overall with markings in dark grey. Black, white and red sharkmouth motif on nose. Yellow/black tiger stripe across fin. Flew the "Kabulki Dance", the longest fighter mission of Operation Enduring Freedom on 12 November 2001

F-15E-50-MC Strike Eagle, S/No. 90-0262/WA, 17th WPS, 57th FWS, Weapons Squadron USAF, Nellis AFB, Nevada, 2005. Gunship Grey FS.36118 overall with markings in dark grey. Yellow/black checks across top of fin. Crew names on nose are: Maj Chris Zuhlke, Lt Col Mark Lovejoy



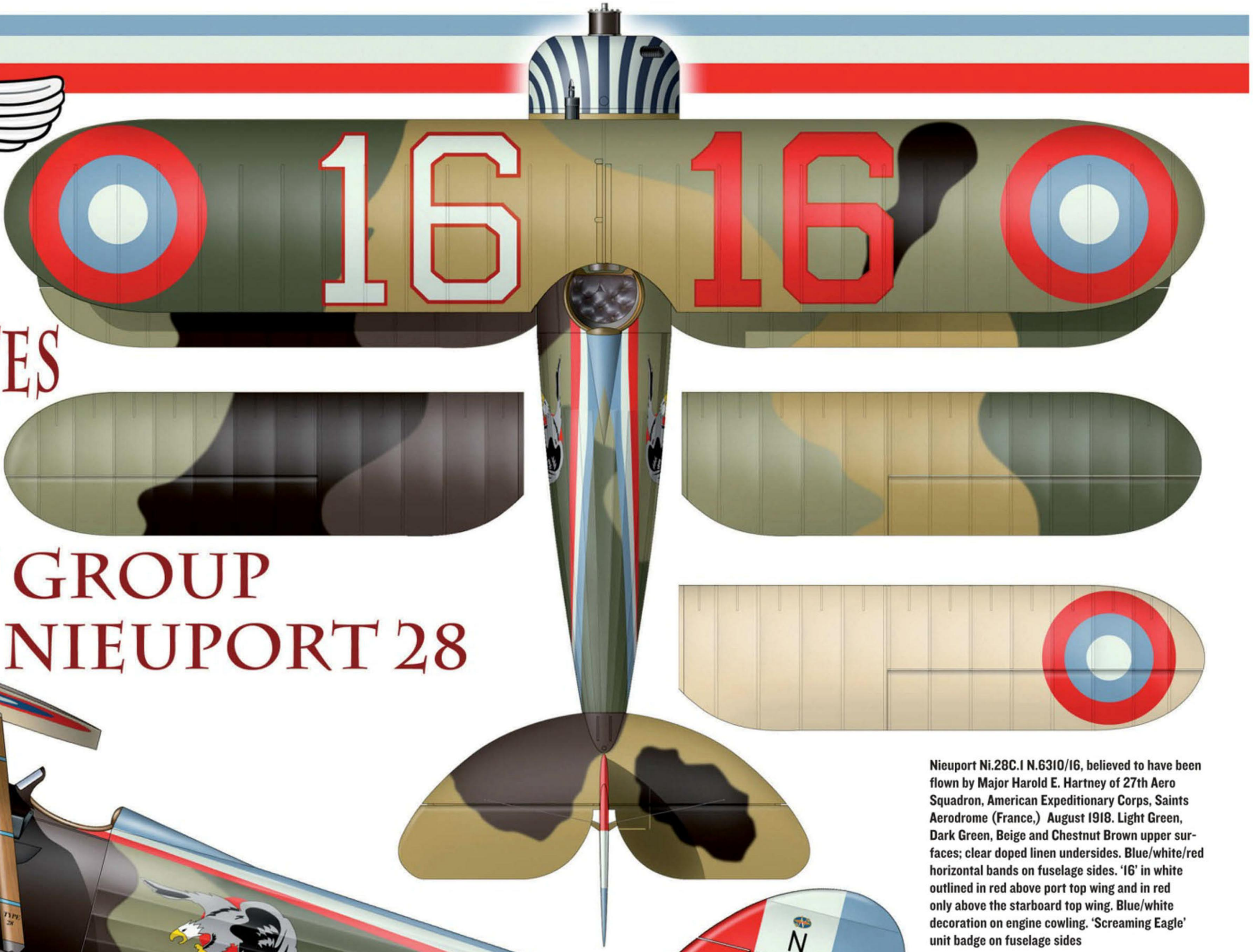

F-15E-64-MC Strike Eagle, S/No. 01-2004/LN, 494th FS 'Panthers', Flagship of the 48th FW USAF, RAF Lakenheath, summer 2007. Gunship Grey FS.36118 overall with markings in dark grey with tail codes having a white drop shadow. Red/yellow/blue/green band across top of fin. Crew names on nose are: Lt Gen Norm Seip, Capt Pete McCormick. This F-15E was the last of its type built (C/No.1375/E236)

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6



# UNITED STATES AIR SERVICE

# 1ST PURSUIT GROUP NIEUPORT 28



**Nieuport Ni.28C.I N.6310/16, believed to have been flown by Major Harold E. Hartney of 27th Aero Squadron, American Expeditionary Corps, Saints Aerodrome (France,) August 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. Blue/white/red horizontal bands on fuselage sides. '16' in white outlined in red above port top wing and in red only above the starboard top wing. Blue/white decoration on engine cowling. 'Screaming Eagle' unit badge on fuselage sides**

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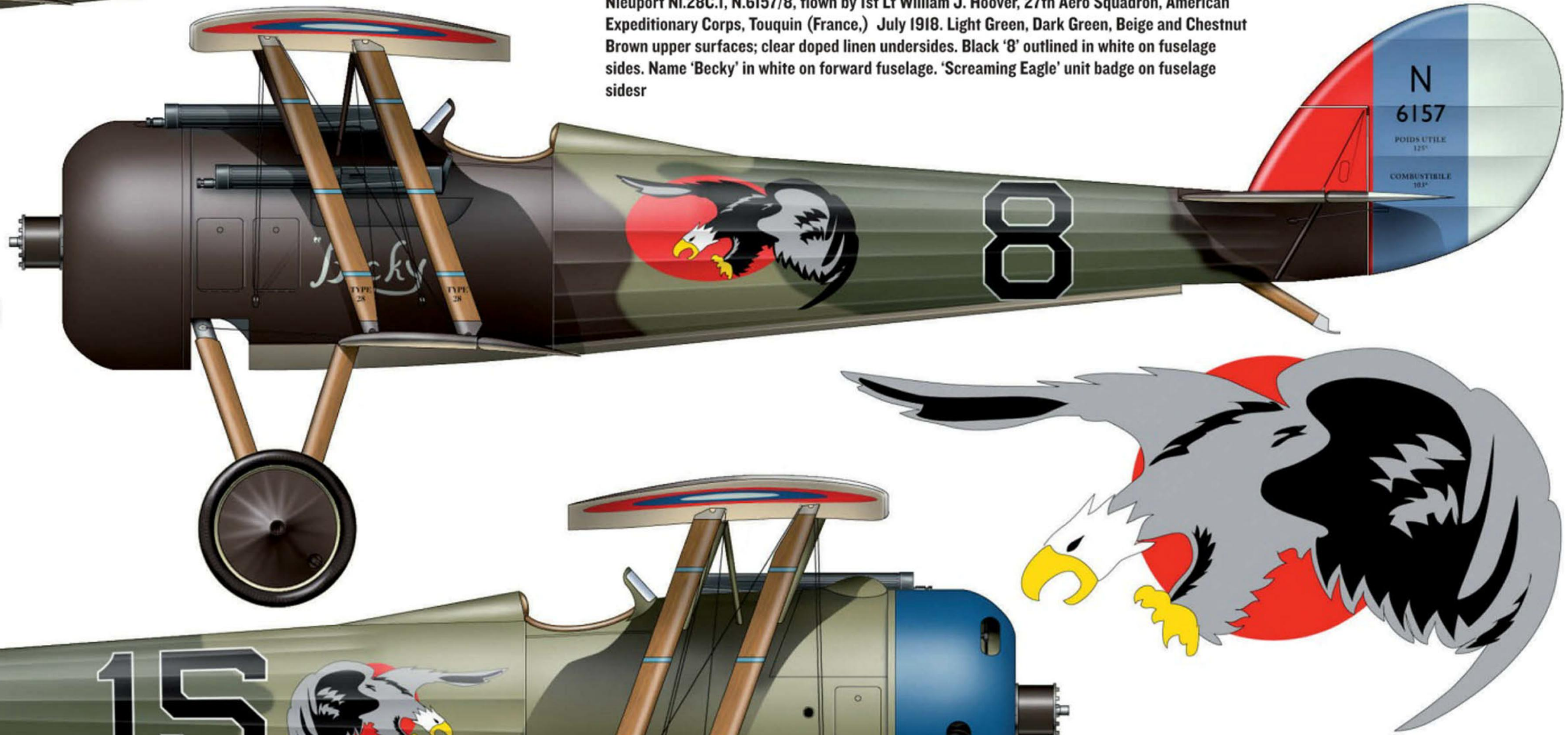
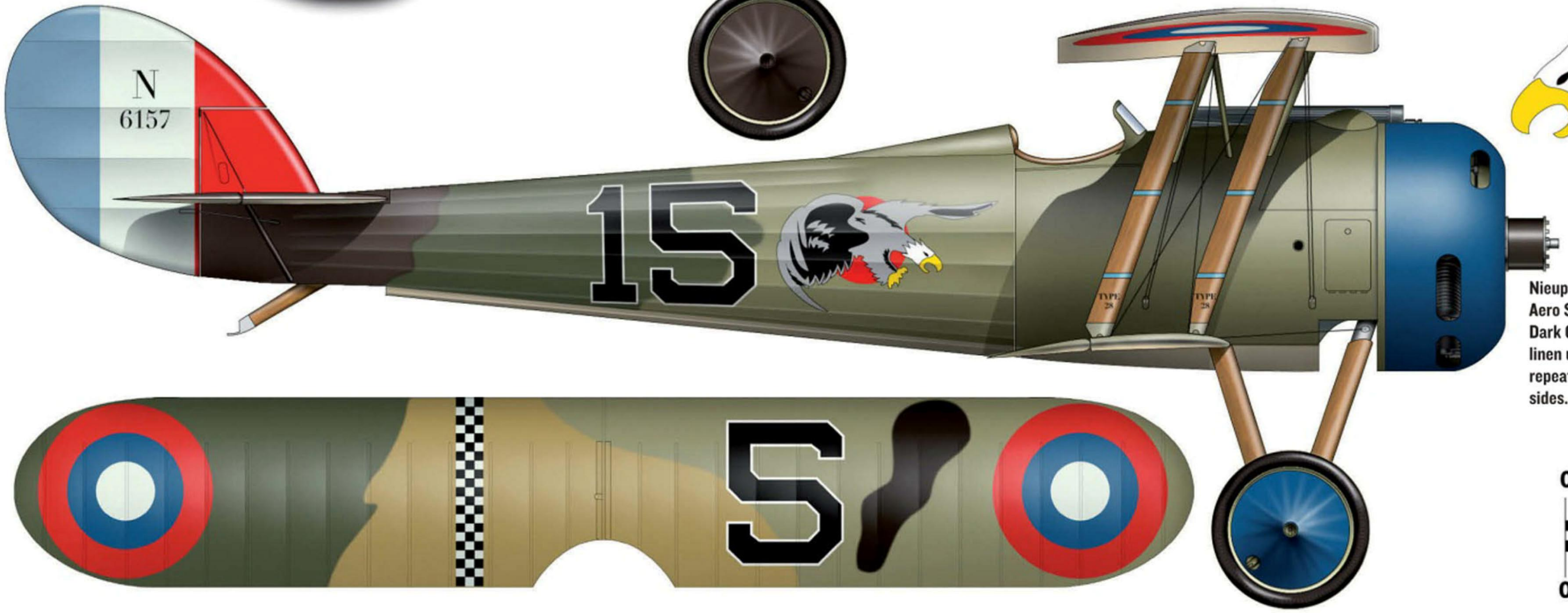
Nieuport Ni.28C.I, No.6302/5, flown by Lt McElvain of 27th Aero Squadron, American Expeditionary Corps, France, summer 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides.Black '5' on fuselage sides and above starboard top wing; black/white chordwise checks on upper port wing. 'Screaming Eagles' unit badge on fuselage sides

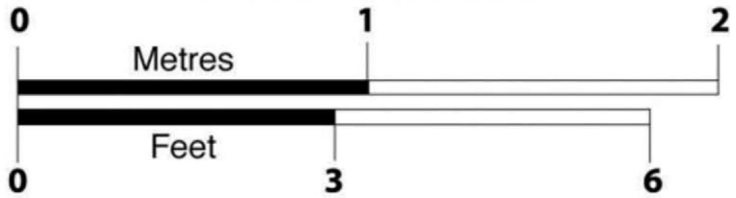
Nieuport Ni.28C.I, N.6157/8, flown by 1st Lt William J. Hoover, 27th Aero Squadron, American Expeditionary Corps, Touquin (France,) July 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. Black '8' outlined in white on fuselage sides. Name 'Becky' in white on forward fuselage. 'Screaming Eagle' unit badge on fuselage sidesr



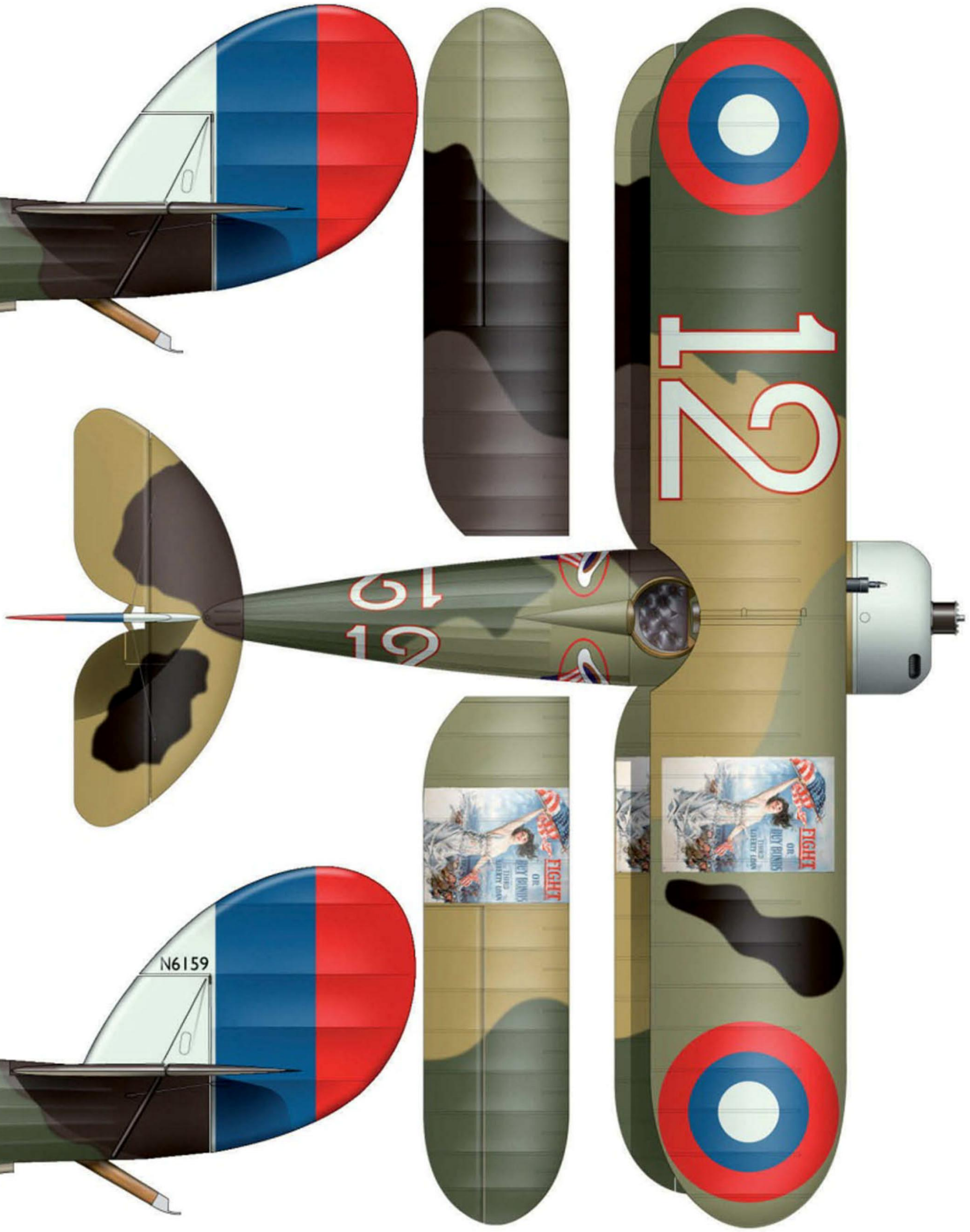



Nieuport Ni.28C.I, N.6157/15, flown by 1st Lt William J. Hoover of No 27 Aero Squadron, American Expeditionary Corps, France, 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides; blue cowling and wheel covers. Black '15', outline in white, repeated above top port wing; 'Screaming Eagle' unit badge on fuselage sides. Black/white checks above top starboard wing

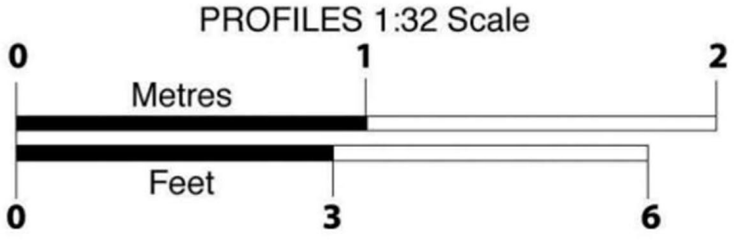
PROFILES 1:32 Scale



Above: Nieuport Ni.28C.I, N.6169, flown by Ist Lt Edward V. Rickenbacker of 94th Aero Squadron, American Expeditionary Corps, France, 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides; white/red/blue cowling. White 'I' with blue and red drop shadows; 'Hat in Ring' unit badge on both fuselage sides. The pilot flew this aircraft when he scored his third victory on 17 May, and also those of 22, 28 and 30 May 1918

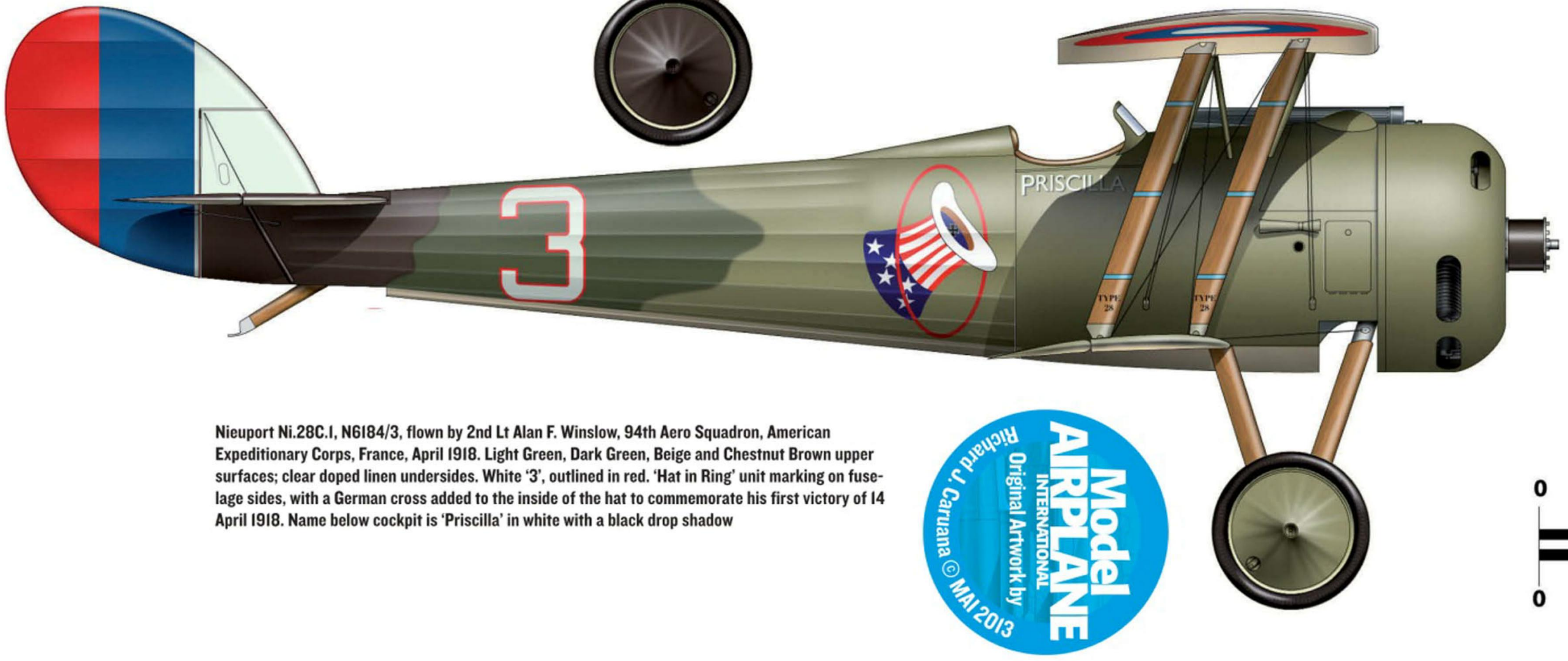


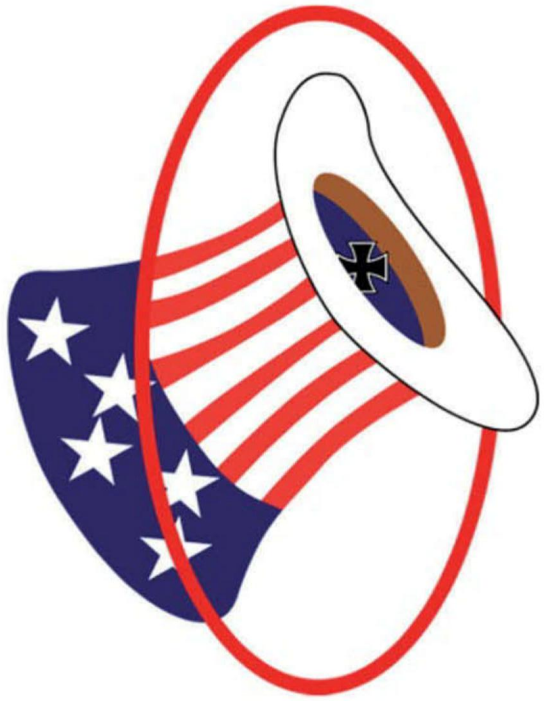
Above and Scrap Top View: Nieuport Ni.28C.I, N6159/12, flown by Ist Lt Edward V. Rickenbacker, 94th Aero Squadron American Aero Expeditionary Force, France, June 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides. White engine cowling; white '10' with red outline. 'Hat in Ring' unit badge on fuselage sides. 'Liberty Bonds' posters applied to the upper and lower wing surfaces



Nieuport Ni.28C.I, No.6144/14, flown by Lt Lt James A. Meissner, 2nd Flight, 94th Aero Squadron, American Expeditionary Corps, France, early 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. Black 14 on rear fuselage sides. Red decoration on natural metal engine cowling. Roundels carried above and below top wing, and below bottom wings. 'Hat in Ring' unit badge carried on fuselage sides

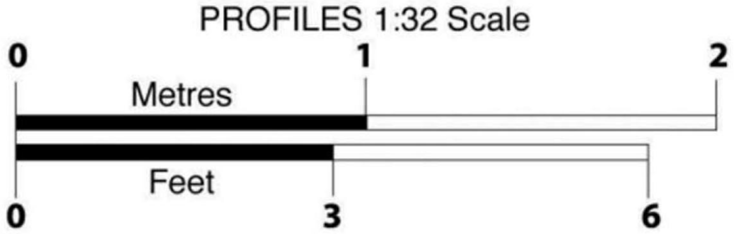
Nieuport Ni.28C.I, No.6144/8, flown by Lt Lt James A. Meissner, 2nd Flight, 94th Aero Squadron, American Expeditionary Corps, France, late May 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. Black 14 on rear fuselage sides has been painted over with a patch of Chestnut and a white '8', outlined in red, applied. Red decoration on natural metal engine cowling. Roundels carried above and below top wing. 'Hat in Ring' unit badge carried on fuselage sides

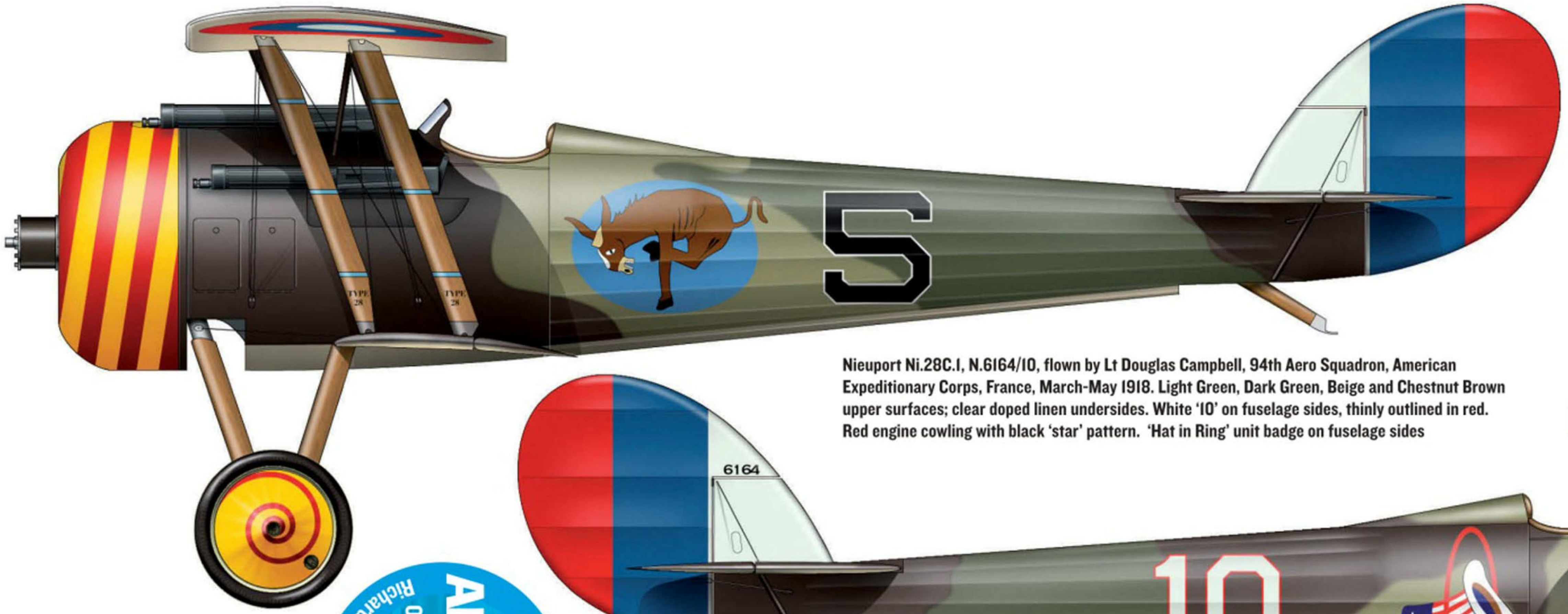


Nieuport Ni.28C.I, N6184/3, flown by 2nd Lt Alan F. Winslow, 94th Aero Squadron, American Expeditionary Corps, France, April 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. White '3', outlined in red. 'Hat in Ring' unit marking on fuselage sides, with a German cross added to the inside of the hat to commemorate his first victory of 14 April 1918. Name below cockpit is 'Priscilla' in white with a black drop shadow

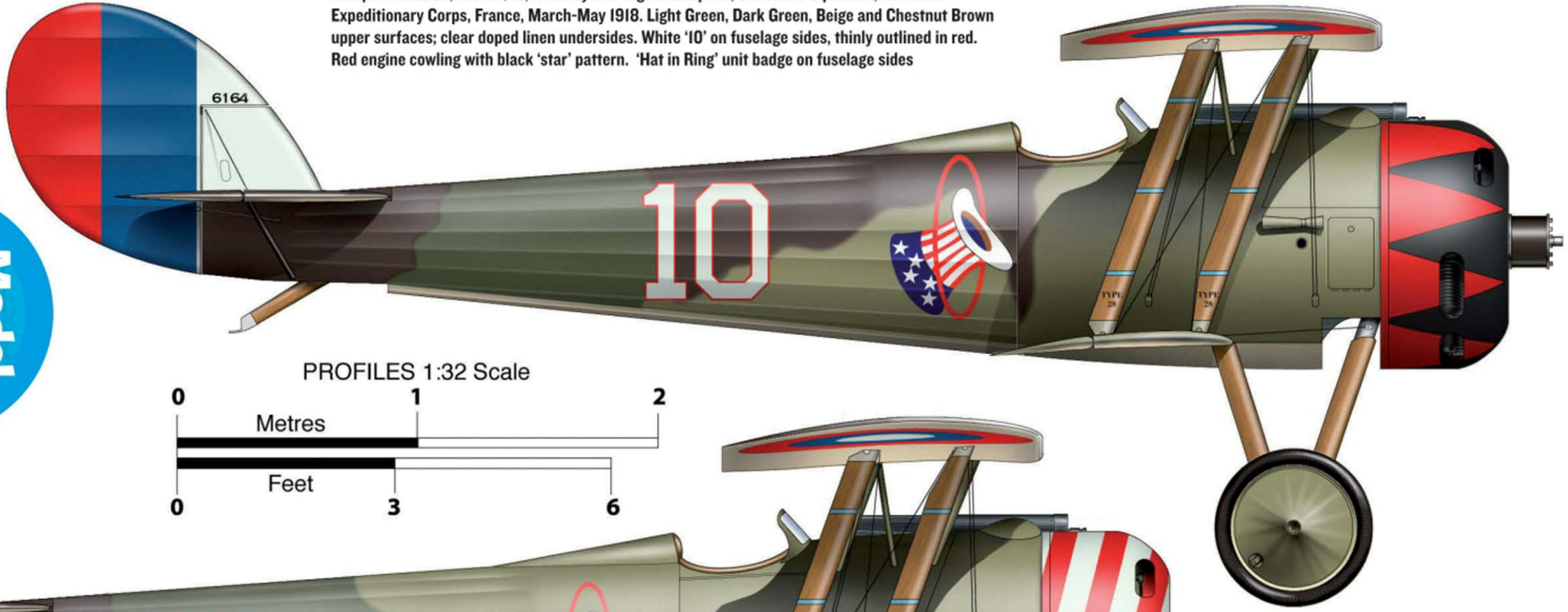
Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013






Nieuport Ni.28C.I, 95th Aero Squadron American Aero Expeditionary Force, France 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides; yellow/red cowling stripes and wheel cover spirals. Black '5' on fuselage sides, outlined in white, repeated above top starboard wing; 'Kicking Mule' unit badge on fuselage sides

Nieuport Ni.28C.I, N.6164/10, flown by Lt Douglas Campbell, 94th Aero Squadron, American Expeditionary Corps, France, March-May 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. White '10' on fuselage sides, thinly outlined in red. Red engine cowling with black 'star' pattern. 'Hat in Ring' unit badge on fuselage sides

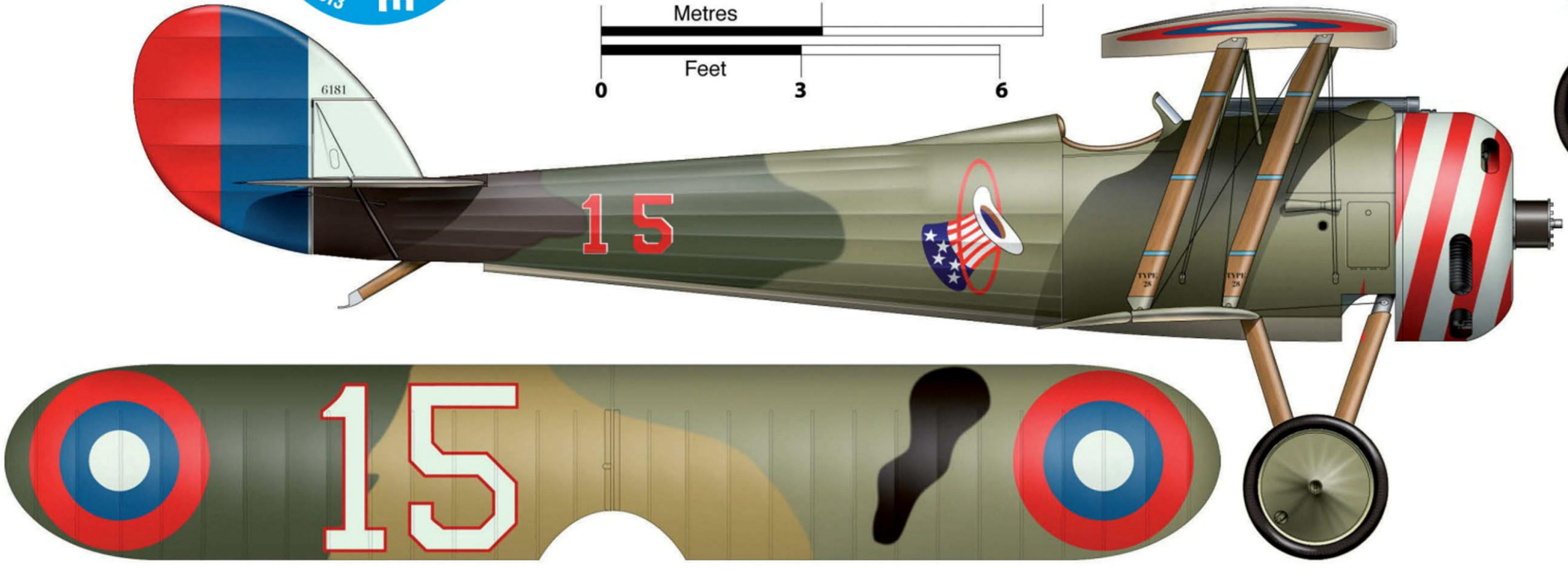



Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

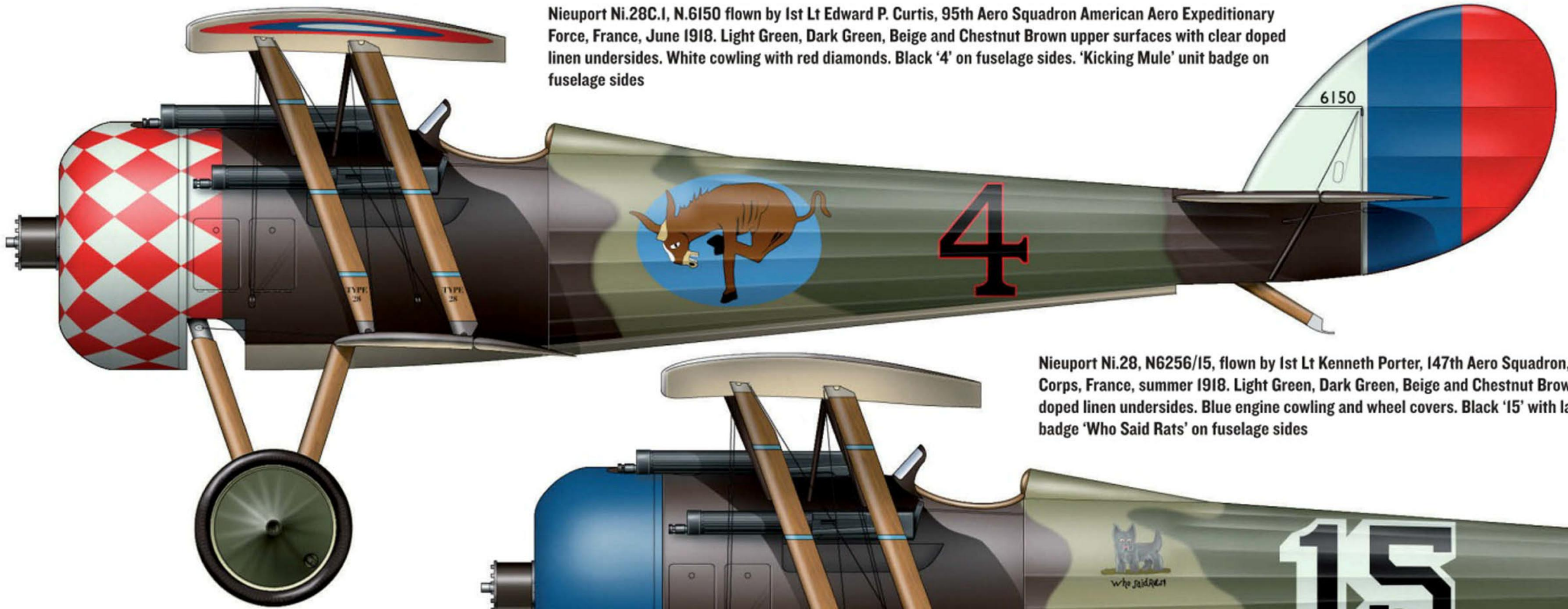
PROFILES 1:32 Scale

0 — 1 — 2 Metres

0 — 3 — 6 Feet



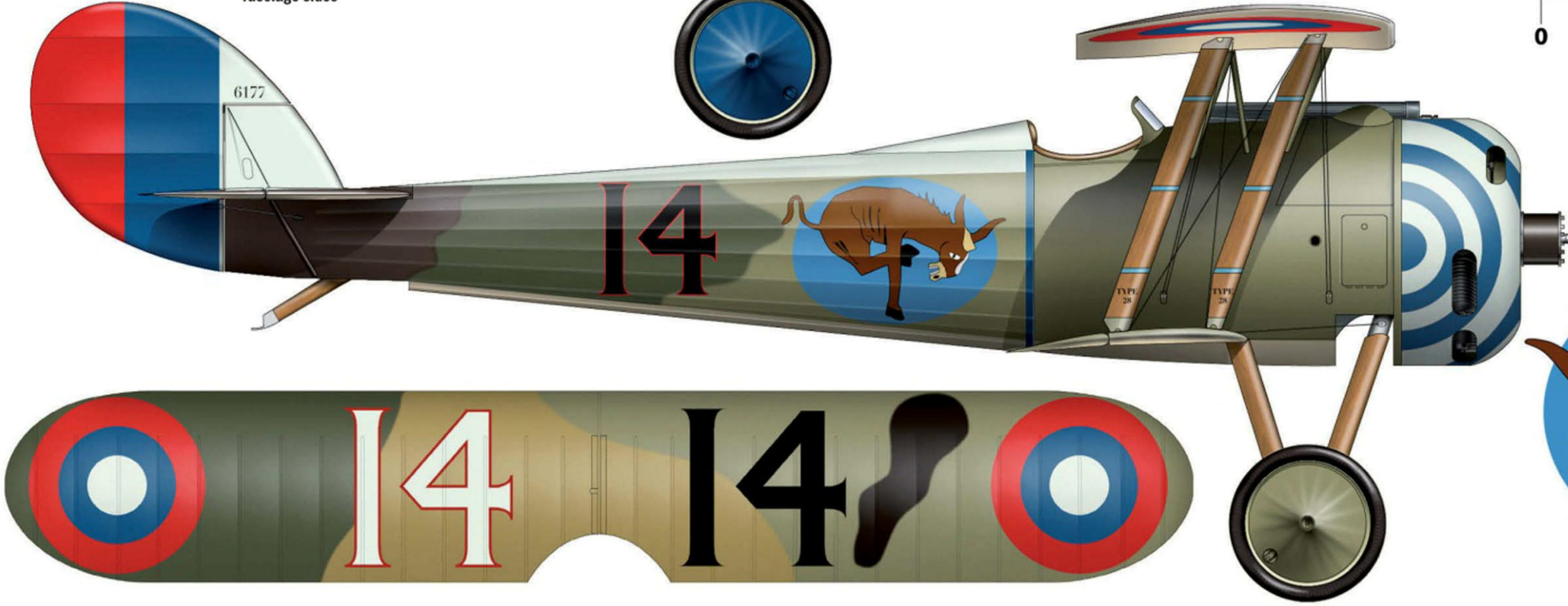

Nieuport Ni.28C.I, N.6181/15, flown by 1st Lt William F. Loomis of No. 94 Aero Squadron, American Expeditionary Corps, France, 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides; red/white bands on engine cowling. Red '15' with white drop shadow on fuselages sides, repeated above top starboard wing; 'Hat in Ring' unit badge on fuselage sides

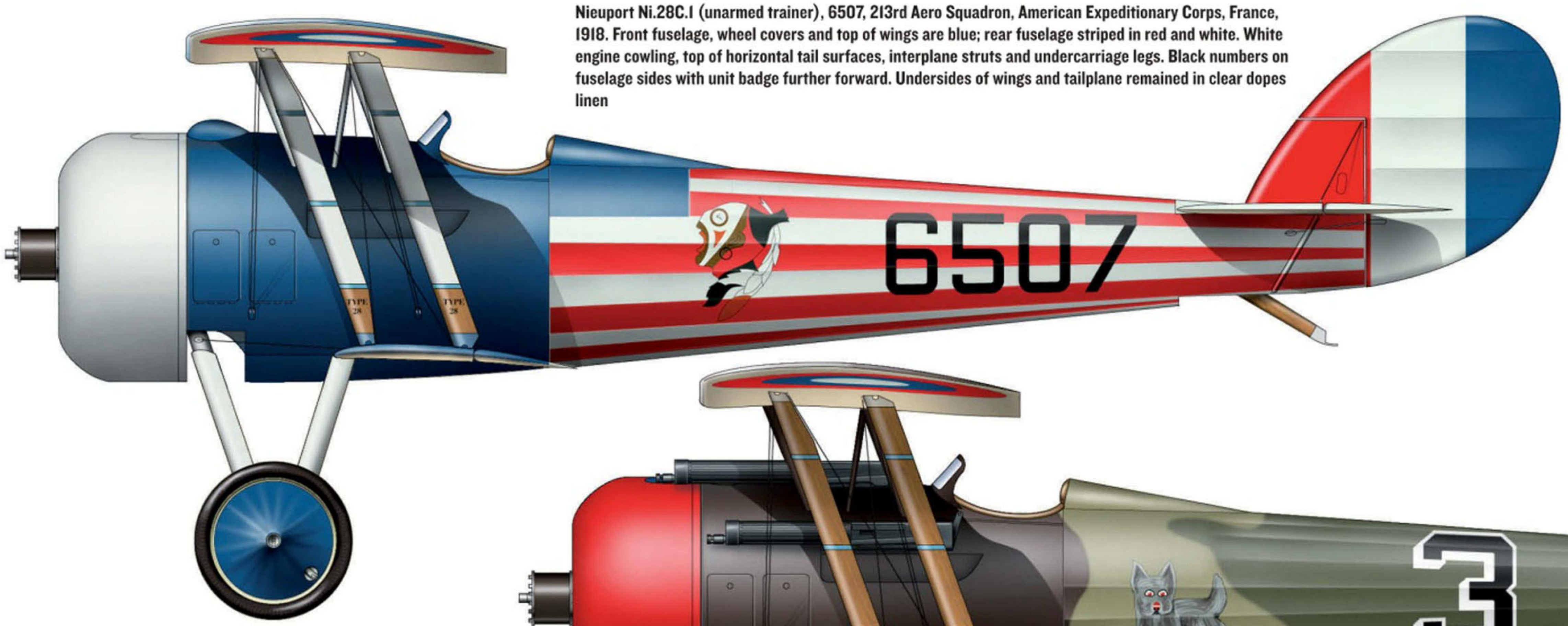



Nieuport Ni.28C.1, N.6150 flown by 1st Lt Edward P. Curtis, 95th Aero Squadron American Aero Expeditionary Force, France, June 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides. White cowling with red diamonds. Black '4' on fuselage sides. 'Kicking Mule' unit badge on fuselage sides

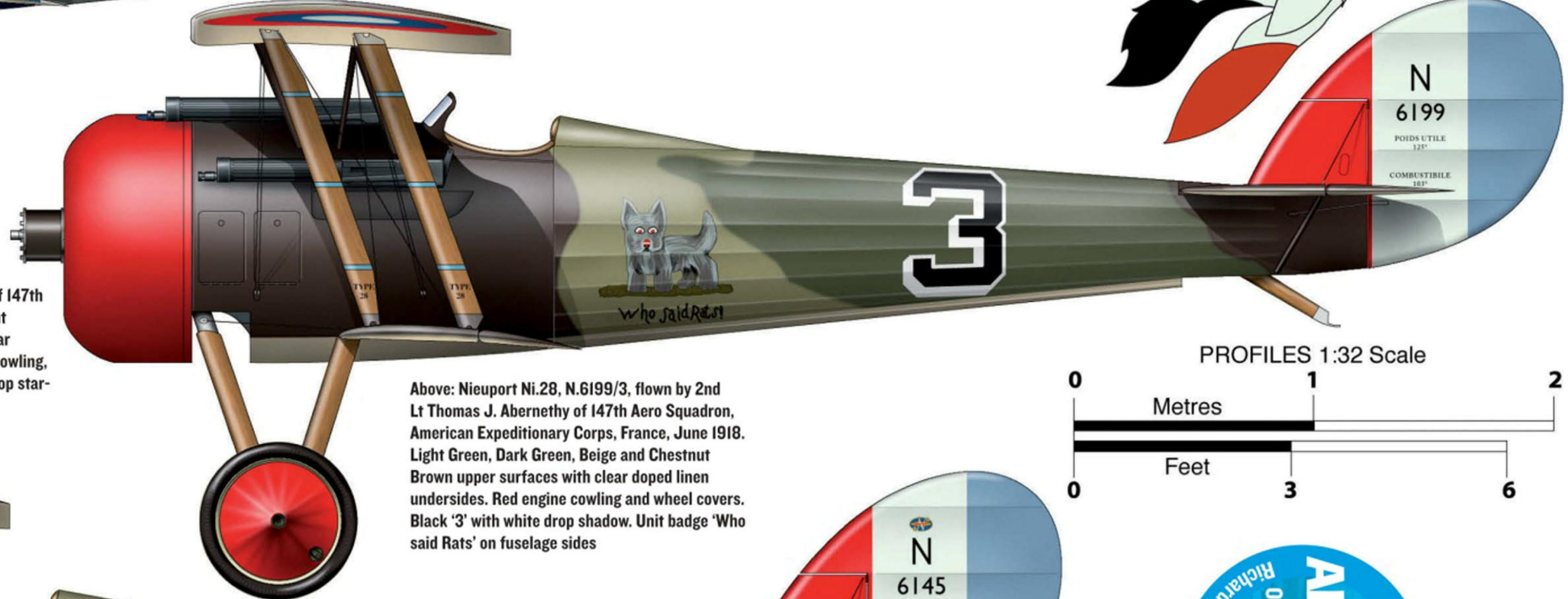
Nieuport Ni.28, N6256/15, flown by 1st Lt Kenneth Porter, 147th Aero Squadron, American Expeditionary Corps, France, summer 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces; clear doped linen undersides. Blue engine cowling and wheel covers. Black '15' with large white drop shadow. Unit badge 'Who Said Rats' on fuselage sides

Nieuport Ni.28, No.6177/14, flown by Lt Quentin Roosevelt of 95th Aero Squadron, American Expeditionary Corps, Chateau-Thierry (France) 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides. Blue/white trim on engine cowling and white fuselage top aft of cockpit. Black '14' on fuselage sides outlined in red, repeated also in black above top port wing and in white, outlined in red above the starboard side. 'Kicking Mule' unit badge on fuselage sides





Nieuport Ni.28C.1 (unarmed trainer), 6507, 213rd Aero Squadron, American Expeditionary Corps, France, 1918. Front fuselage, wheel covers and top of wings are blue; rear fuselage striped in red and white. White engine cowling, top of horizontal tail surfaces, interplane struts and undercarriage legs. Black numbers on fuselage sides with unit badge further forward. Undersides of wings and tailplane remained in clear dopes linen

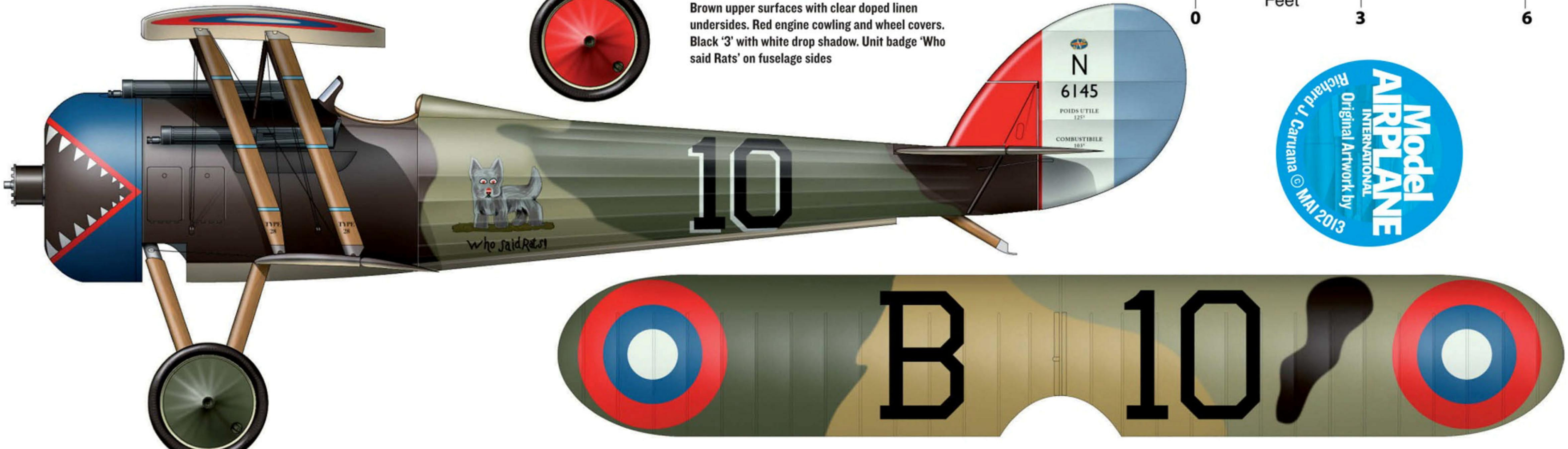



Above: Nieuport Ni.28, N.6199/3, flown by 2nd Lt Thomas J. Abernethy of 147th Aero Squadron, American Expeditionary Corps, France, June 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides. Red engine cowling and wheel covers. Black '3' with white drop shadow. Unit badge 'Who said Rats' on fuselage sides

PROFILES 1:32 Scale

Metres: 0, 1, 2

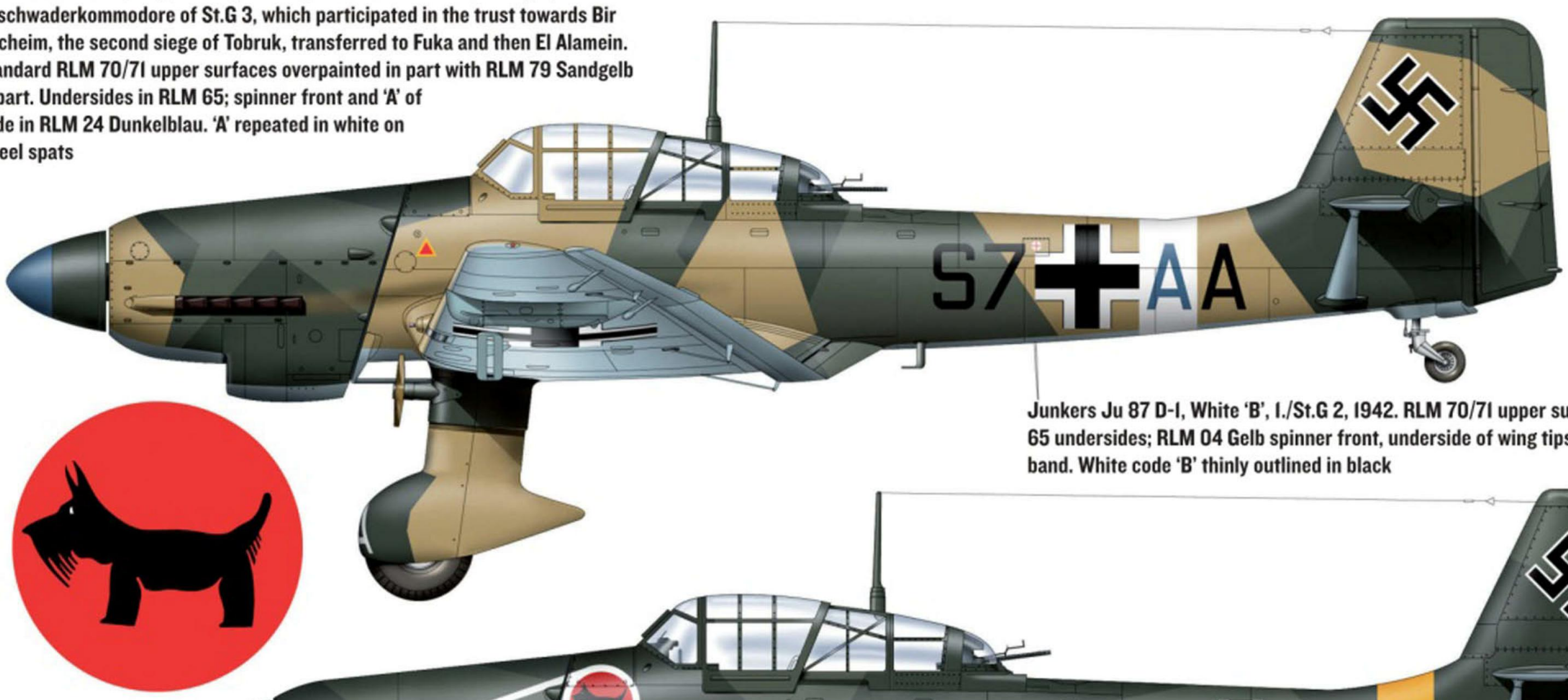
Feet: 0, 3, 6




Below: Nieuport Ni.28C.1, N.6145/10, flown by 2nd Lt Ralph A. O'Neill of 147th Aero Squadron, American Expeditionary Corps, France, June 1918. Light Green, Dark Green, Beige and Chestnut Brown upper surfaces with clear doped linen undersides. Blue/red/white 'sharkmouth' motif on engine cowling, blue wheel covers. Black '10' with white drop shadow, repeated above top starboard wing. Unit badge 'Who Said Rats!' on fuselage sides

Model Airplane International Original Artwork by Richard J. Caruana © MAI 2013

Junkers Ju 87D-1/Trop, S7+AA, flown by Oberstleutnant Walter Sigel, Geschwaderkommodore of St.G 3, which participated in the trust towards Bir Hacheim, the second siege of Tobruk, transferred to Fuka and then El Alamein. Standard RLM 70/71 upper surfaces overpainted in part with RLM 79 Sandgelb in part. Undersides in RLM 65; spinner front and 'A' of code in RLM 24 Dunkelblau. 'A' repeated in white on wheel spats

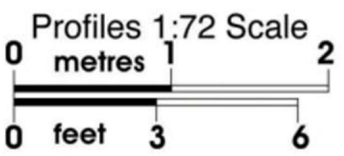


Junkers Ju 87 D-1, White 'B', I./St.G 2, 1942. RLM 70/71 upper surfaces with RLM 65 undersides; RLM 04 Gelb spinner front, underside of wing tips and rear fuselage band. White code 'B' thinly outlined in black

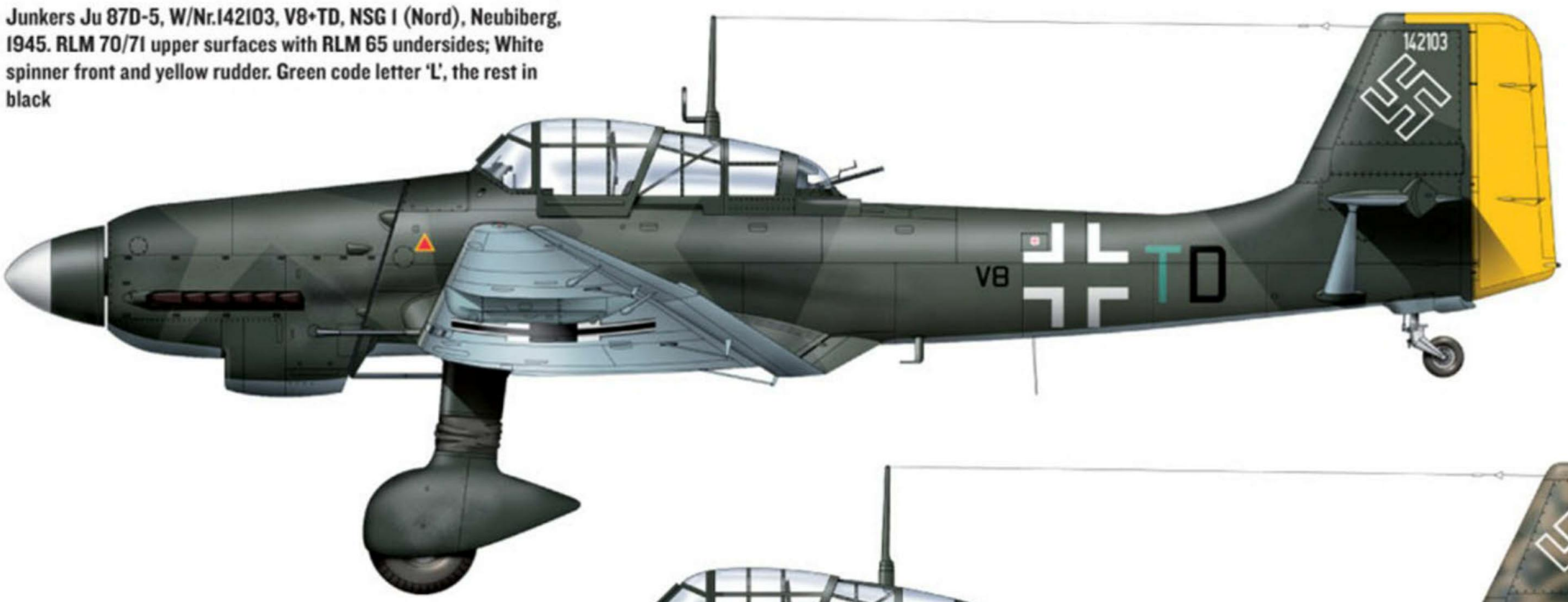
Ju 87D-3, T6+BM, 4./St.G 2, Russia, early 1944. RLM 70/71 upper surfaces with RLM 65 undersides; Black codes with red 'B', thinly outlined in white, repeated in black below wing tips. Yellow rear fuselage band and underside of wing tips. White spinner front, '2' on wheel spats and angled band on rudder. Unit badge below windscreen. Name 'Brunhilde' in white on nose

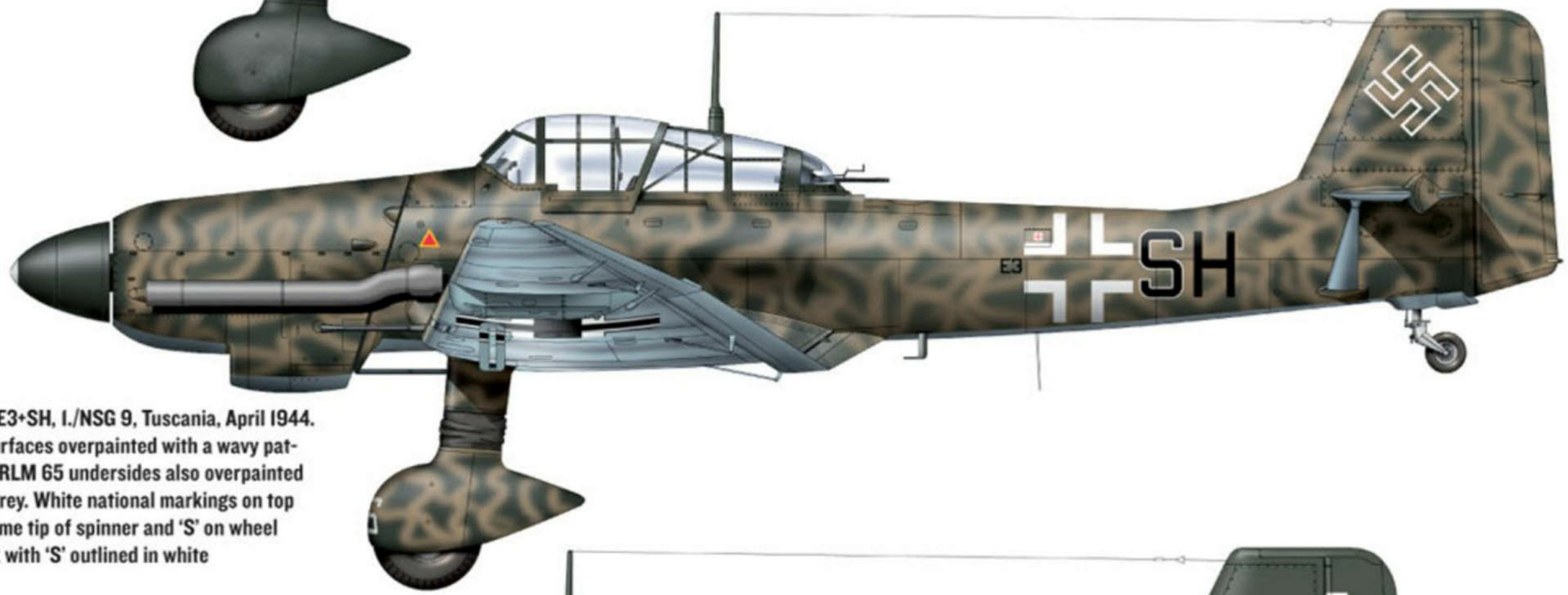
Junkers Ju 87D-3, S2+LT, 9./St.G 77, Eastern Front. RLM 70/71 upper surfaces overpainted in termporary white distemper; underside in RLM 65. RML 04 Gelb front of spinner, undersides of wing tips and rear fuselage band; white band aft of yellow on spinner. Code 'L' in yellow, outlined in black, rest of code in black

Junkers Ju 87D-5, Yellow A, flown by Lt Teo Baurle, Staffelkapitan 3./ St.G 3, Immola (Finland), summer 1944. RLM 70/71 upper surfaces with RLM 65 undersides. Yellow spinner tip, underside of wing tips and rear fuselage band. Code and rank pennant in yellow. 'A' repeated, also in yellow, on front of wheel spats

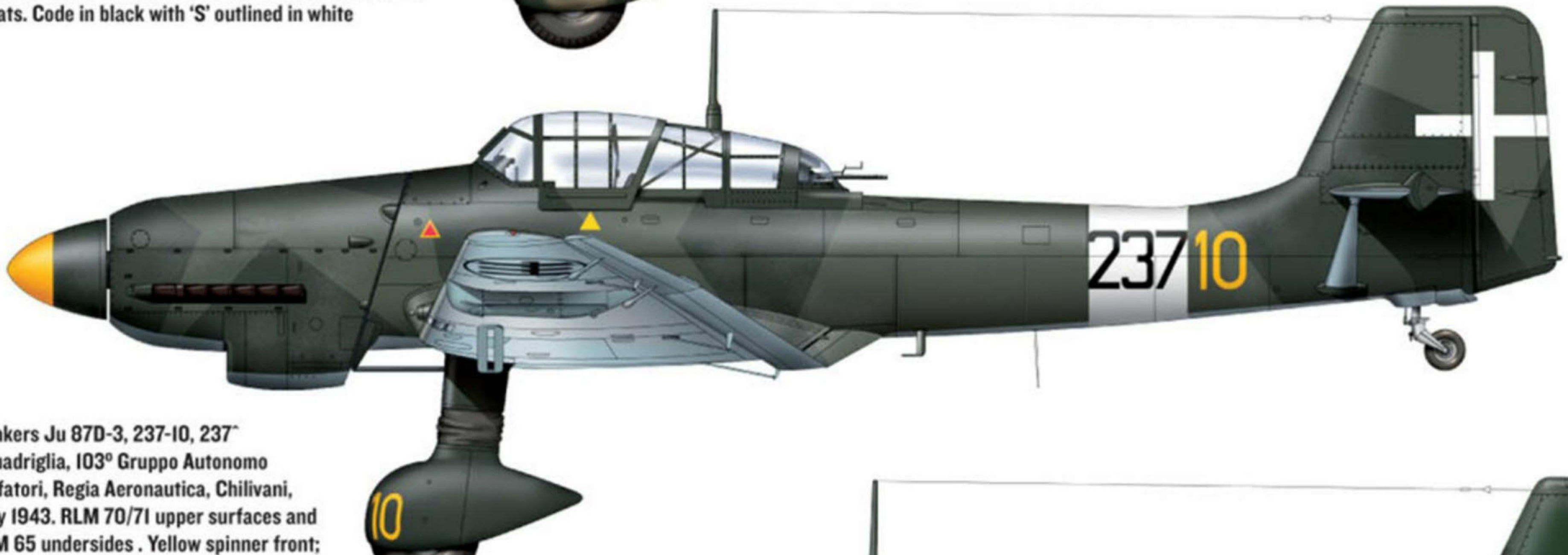


Junkers Ju 87D-5, W/Nr.142103, V8+TD, NSG 1 (Nord), Neubiberg, 1945. RLM 70/71 upper surfaces with RLM 65 undersides; White spinner front and yellow rudder. Green code letter 'L', the rest in black

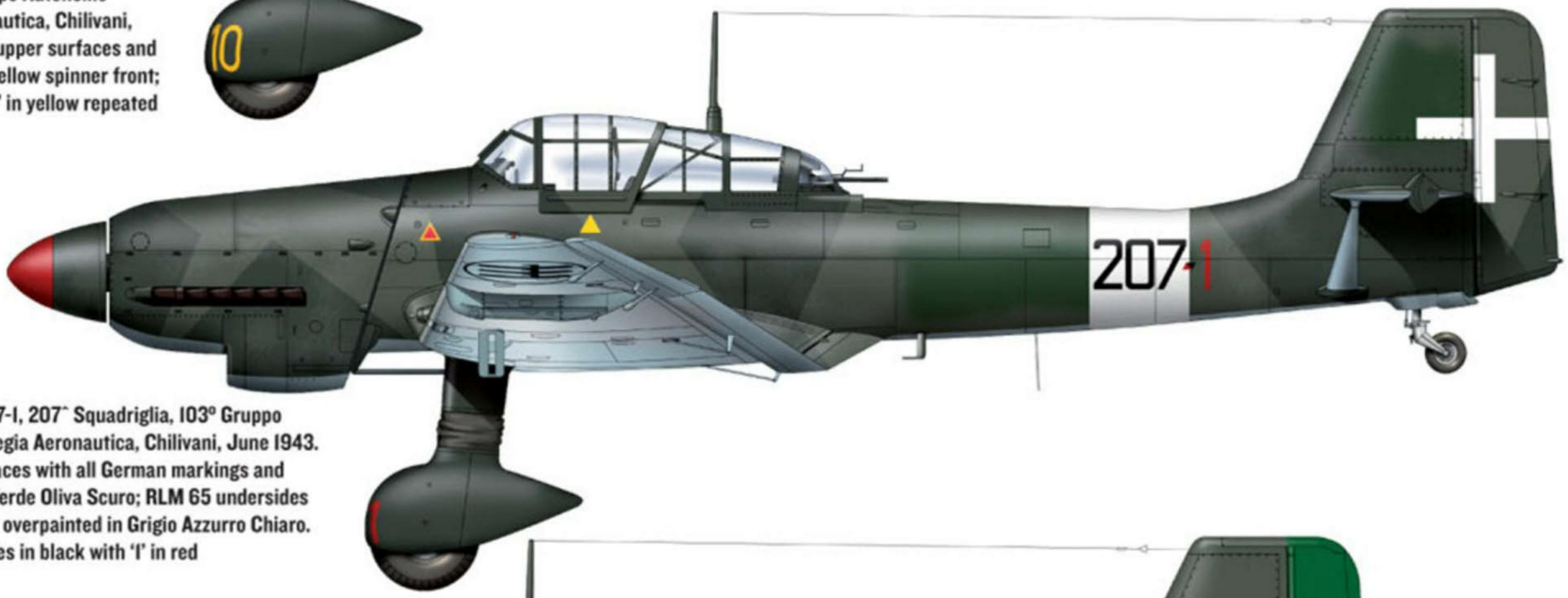



Junkers Ju 87D-5, E3+SH, I./NSG 9, Tuscania, April 1944. RLM 70/71 upper surfaces overpainted with a wavy pattern of brown/grey; RLM 65 undersides also overpainted in 'tiger stripes' in grey. White national markings on top colours; white extreme tip of spinner and 'S' on wheel spats. Code in black with 'S' outlined in white




Junkers Ju 87D-3, 237-10, 237^a Squadriglia, 103° Gruppo Autonomo Tuffatori, Regia Aeronautica, Chilivani, May 1943. RLM 70/71 upper surfaces and RLM 65 undersides . Yellow spinner front; codes in black with '10' in yellow repeated on wheel spats

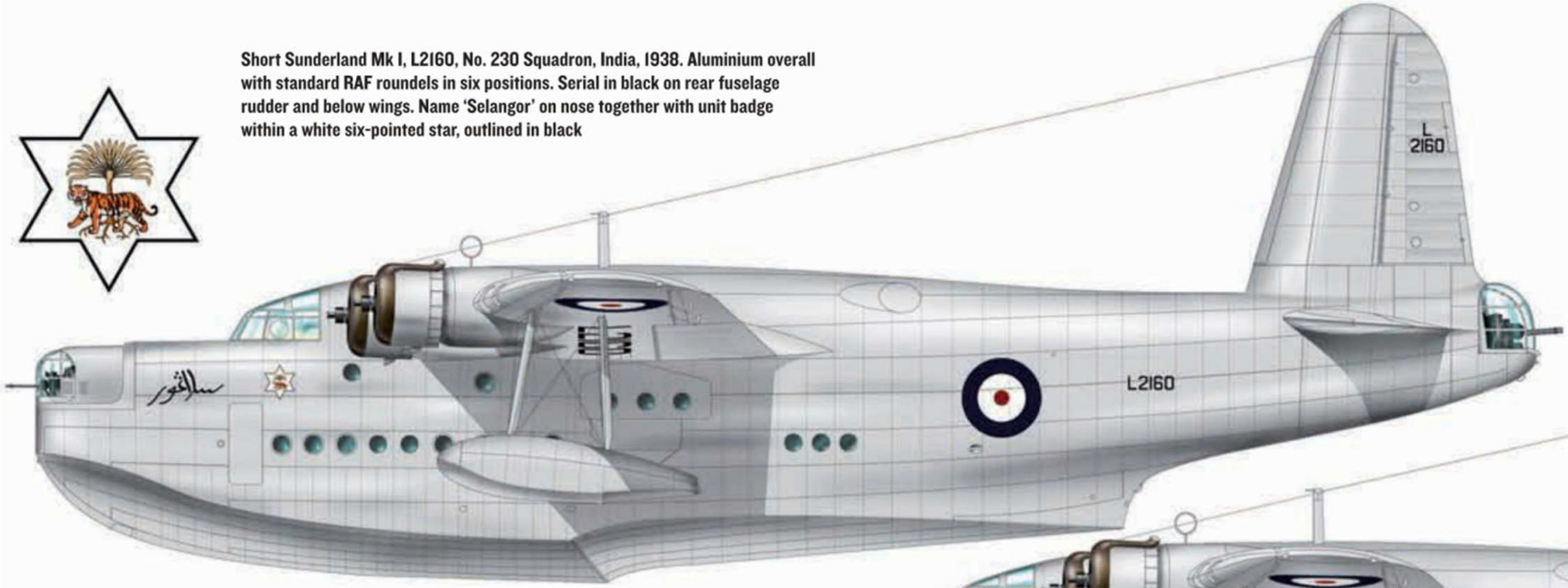



Junkers Ju 87D-3, 207-1, 207^a Squadriglia, 103° Gruppo Autonomo Tuffatori, Regia Aeronautica, Chilivani, June 1943. RLM 70/71 upper surfaces with all German markings and codes overpainted in Verde Oliva Scuro; RLM 65 undersides with German markings overpainted in Grigio Azzurro Chiaro. Red spinner front; codes in black with '1' in red

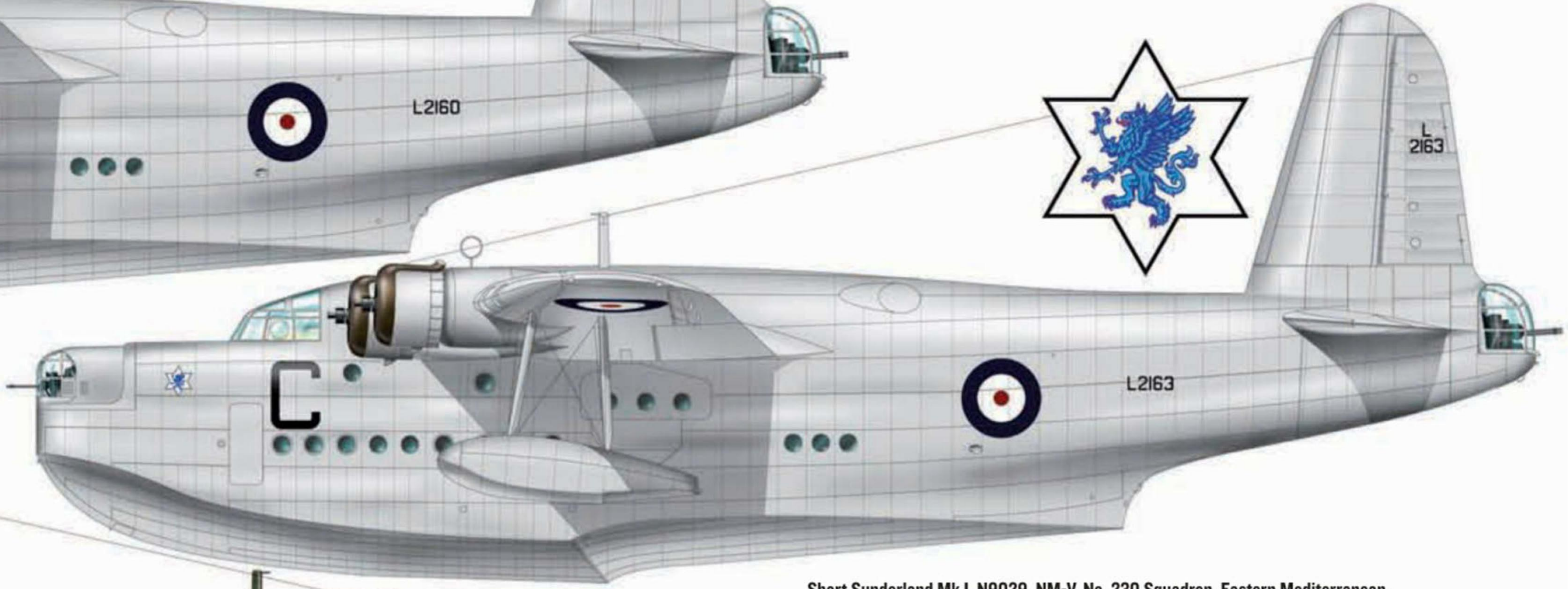
Junkers Ju 87D-5, 'White 13', 1/2 Orljak, Royal Bulgarian Air Force, summer 1944. RLM 70/71 upper surfaces with RLM 65 undersides; Yellow underside of wing tips and fuselage band. National markings in six positions; '13' in white. Rudder in green and red; red/white spiral on spinner

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

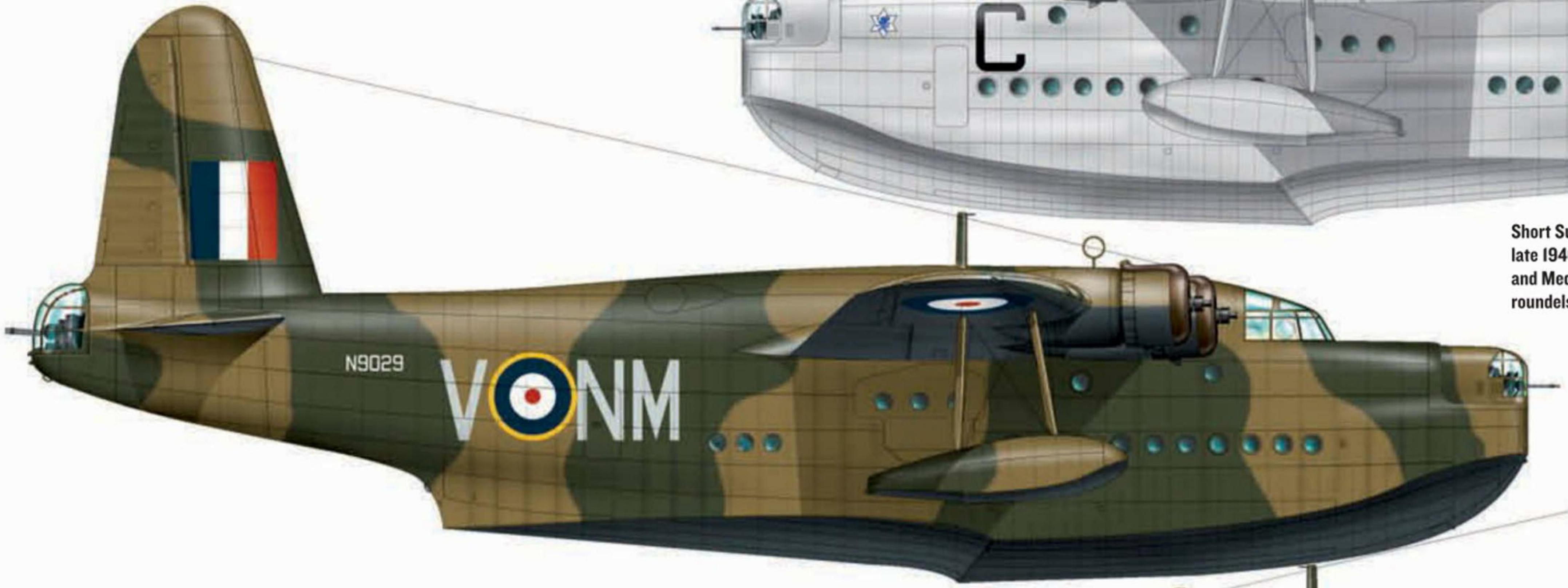
Short Sunderland Mk I, L2160, No. 230 Squadron, India, 1938. Aluminium overall with standard RAF roundels in six positions. Serial in black on rear fuselage rudder and below wings. Name 'Selangor' on nose together with unit badge within a white six-pointed star, outlined in black



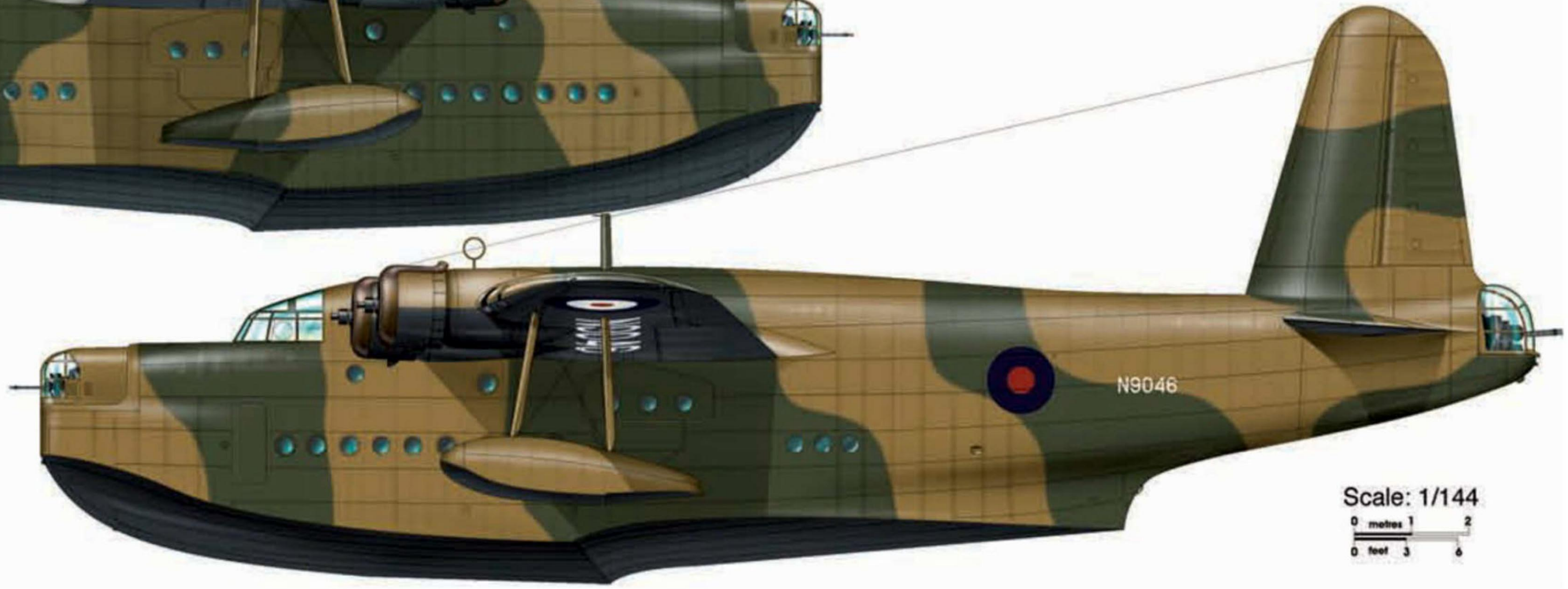

Short Sunderland Mk I, L2163/C, No. 210 Squadron, 1939. Aluminium overall with standard RAF roundels in six positions. Serial in black on rear fuselage and on rudder. Unit badge on nose within a six-pointed white star, outlined in black




Short Sunderland Mk I, N9029, NM-V, No. 230 Squadron, Eastern Mediterranean, late 1940. Dark Earth/Dark Green upper surfaces with Night undersides. White serial and Medium Sea Grey codes. Yellow surround added to fuselage roundel. Blue/red roundels above wings




Short Sunderland Mk I, N9046, delivery scheme to No. 204 Squadron, June 1939. Dark Green/Dark Earth/ upper surfaces with Night undersides. White serial on rear fuselage and below wings. Blue/red roundels on fuselage sides and above wings. Blue/white/red roundels below wings

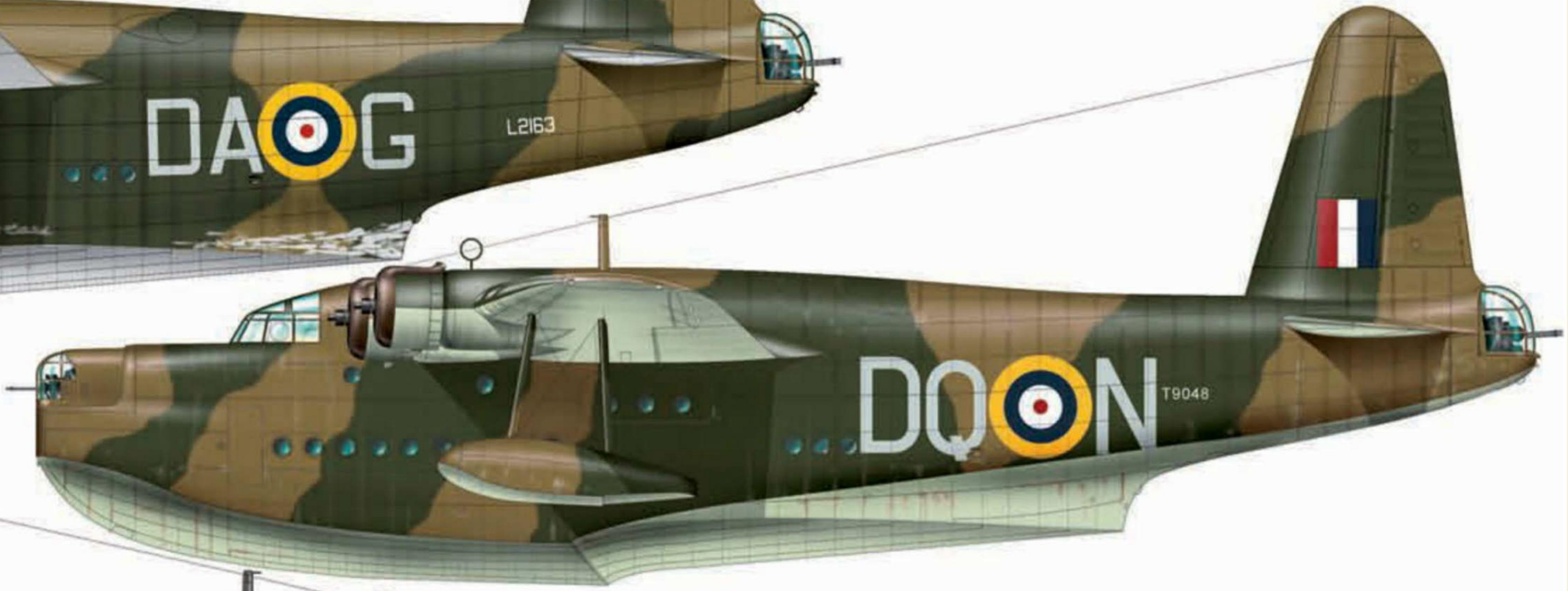



Scale: 1/144

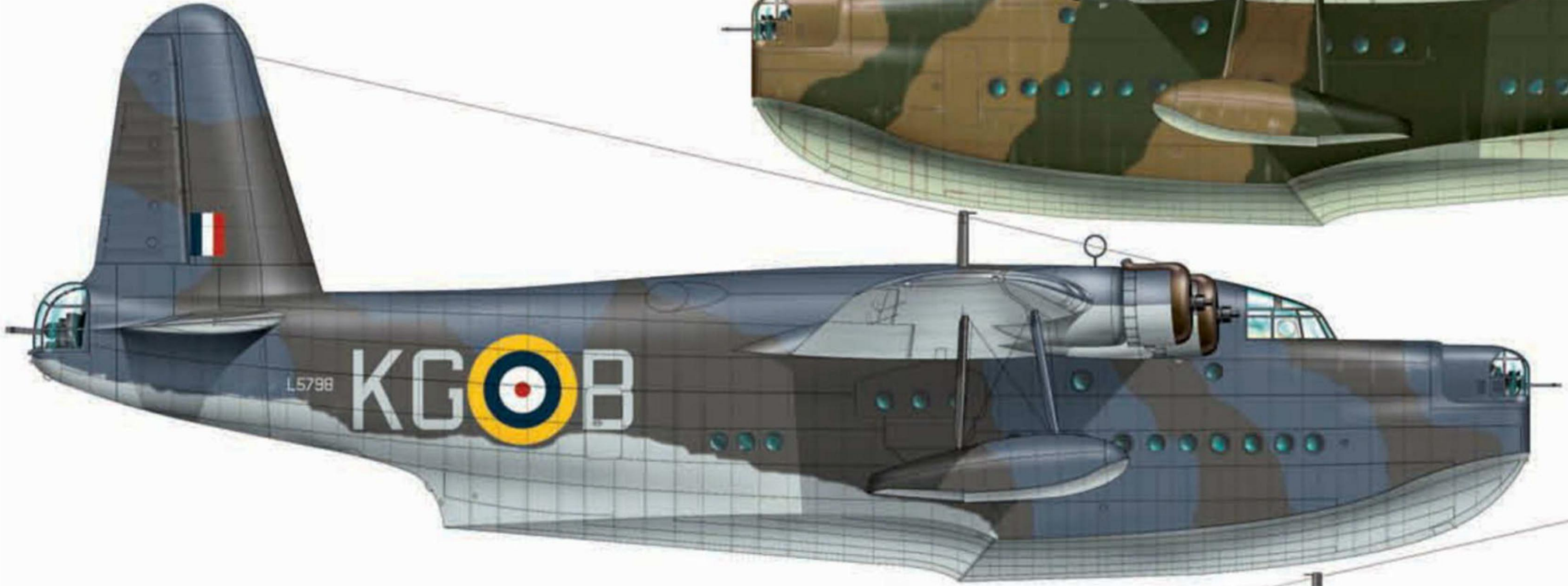
0 metres 1 2
0 feet 3 6

Short Sunderland Mk I, L2163, DA-G, No. 201 Squadron, Pembroke Dock, summer 1940. Dark Earth/Dark Green upper surfaces with Aluminium undersides. Serial in white, codes in Medium Sea Grey. Blue/red roundels above wing. When applied over aluminium, the top colours flaked off especially around the water line

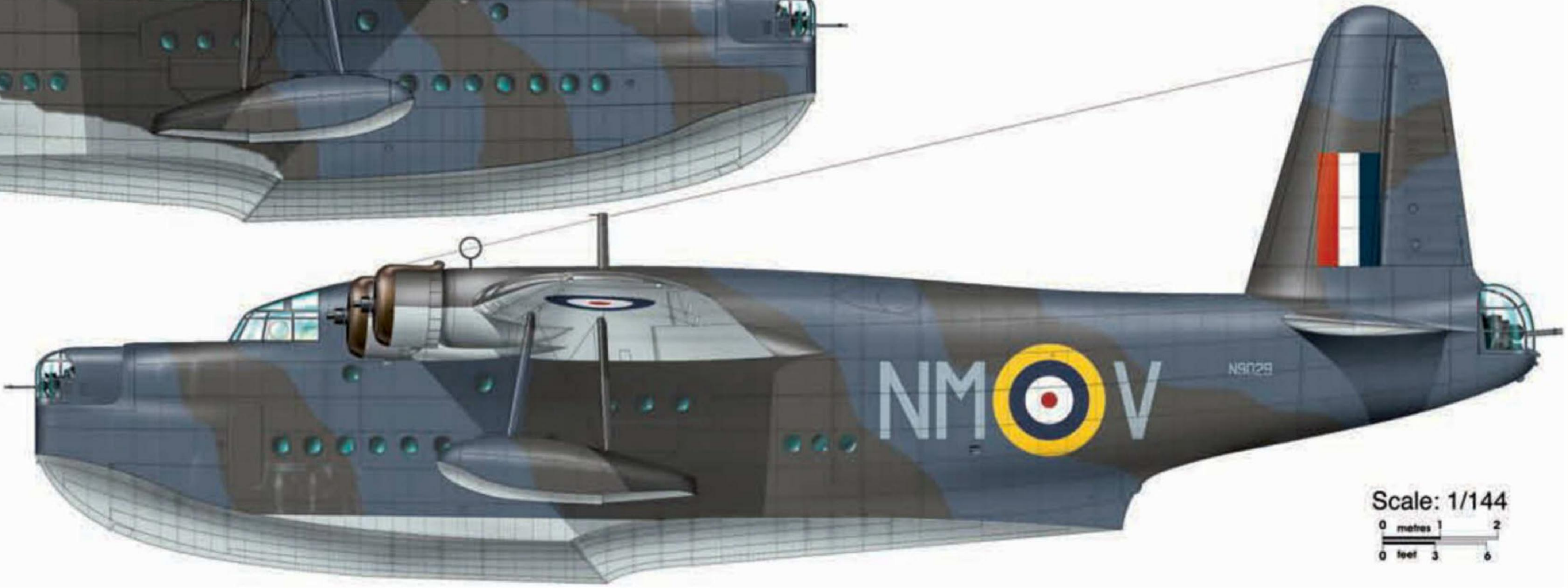
Short Sunderland Mk I, T9048, DQ-N, No. 228 Squadron. Dark Earth/Dark Green upper surfaces with Sky undersides. White serial and Medium Sea Grey codes. Blue/red roundels above wings




Short Sunderland Mk I, L5798, KG-B, No. 204 Squadron, Gibraltar, 1942. Extra Dark Sea Grey/Dark Slate Grey upper surfaces with Medium Sea Grey undersides, codes and serial. Blue/red roundels above wings




Short Sunderland Mk I, N9029, NM-V, No. 230 Squadron, Eastern Mediterranean, late 1940. Dark Earth/Dark Green upper surfaces with Night undersides. White serial and Medium Sea Grey codes. Blue/red roundels above wings

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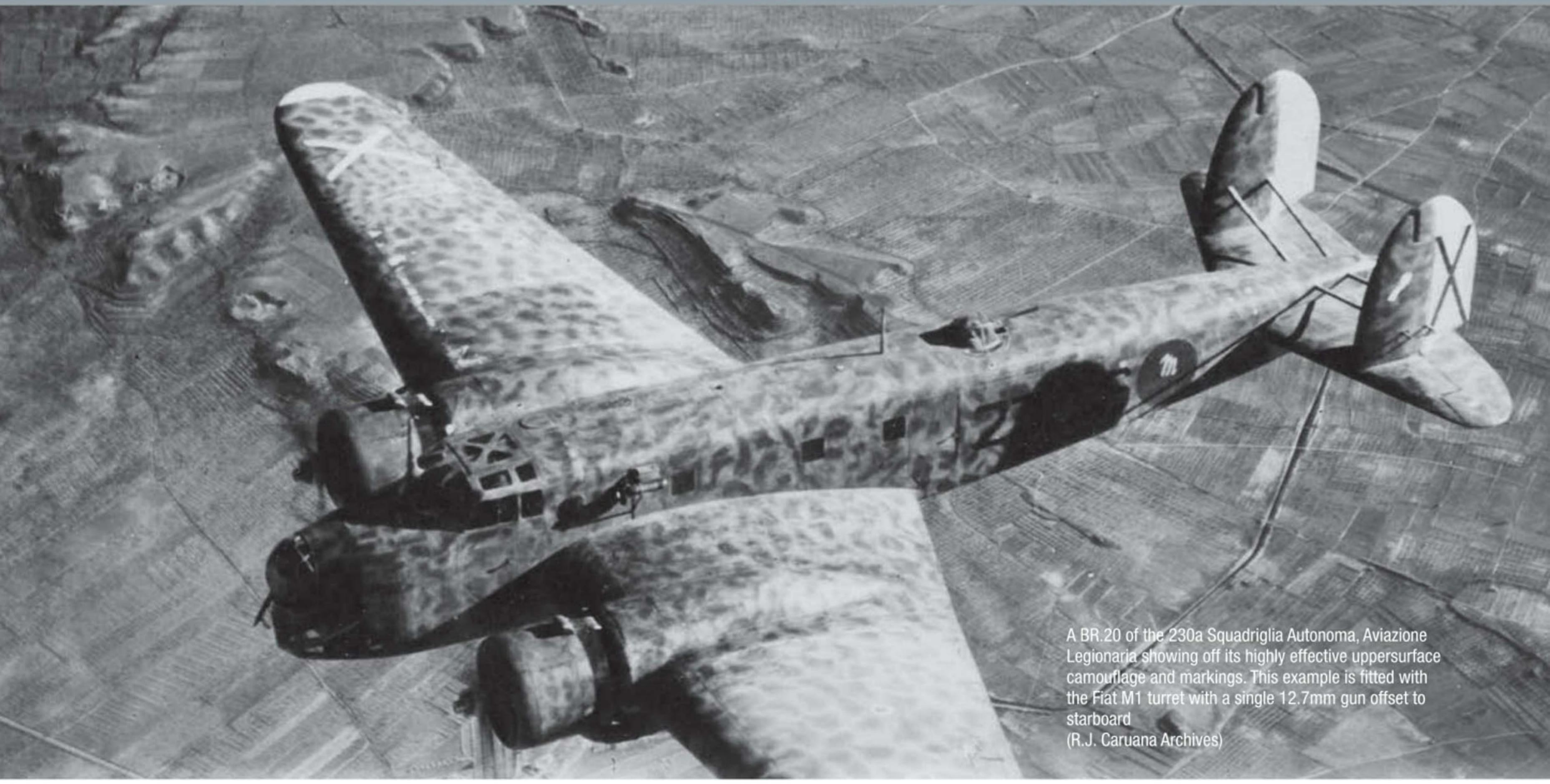


A BR.20 of the 230a Squadriglia Autonoma, Aviazione Legionaria showing off its highly effective uppersurface camouflage and markings. This example is fitted with the Fiat M1 turret with a single 12.7mm gun offset to starboard
(R.J. Caruana Archives)

# FIAT BR.20 Cicogna (Stork)

When the Italian Air Ministry launched a competition for a twin-engined, medium-range aircraft for its Regia Aeronautica bomber units, specifications called for a maximum speed of 385km/h, a capacity to carry up to 1,200kg of bombs to a distance of at least 1,000km. Submissions by interested aviation manufacturers included the Breda Ba.82, Cant Z.1011, Caproni Ca.135, CMASA BGA and Piaggio P.32.

Thanks to experience gained by Rosatelli and his team during the development of the twin-engined commercial APR.2, the prototype of the BR.20 (MM.274) was built in a considerably short time, and it performed its maiden flight 10 February 1936, with test pilot Enrico Rolandi at the controls. During comparative trials at the Centro Sperimentale (Experimental Centre) at Guidonia, the aircraft received highly complimentary remarks from all those who flew it, especially for its robust structure. Trials on the Furbara ranges further confirmed all that was expected from this twin-engined aircraft; its superb bomb-aiming equipment and steadiness in flight enable a selected crew to launch a bomb from an altitude of 4,500m and hit the ground barely 11m off target. Maximum speed was in fact much higher than specified, reaching 432km/h at 5,000m.

Within a few months of approval for the mass-production of the BR.20, FIAT delivered the first operational example to the 13º Stormo at Lonate Pozzolo on 25 September 1936; deliveries to the 7º Stormo began soon afterwards. Pilots from these units, previously flying SM.81s, immediately perceived the aircraft's technological advance. The rush to introduce the BR.20 into service, however, meant that the aircraft suffered a series of teething troubles; the FIAT A.80 engines proved to be unreliable and caused excessive vibration to the wing structure, problems were encountered with the DR turrets and their pair of 7.7mm Breda Safat machine guns, and the bomb release mechanism failed occasionally.

At a time when the Fascist regime in Italy was obsessed in its search for international accolades, two aircraft were taken off the production line and extremely modified (BR.20A) to participate in the Istres-Damascus-Paris air race. All armament and the ventral gondola were removed, and a completely redesigned nose section was fitted. Internal fuel tanks were increased from the standard six to ten totalling 7,700litres, holding more than twice the original capacity. I-ROBO, piloted by Rolandi and Bonini, flew the 2,921km at an average speed of 399km/h to take 6th place, followed in 7th place by the other BR.20A, I-GAQU flown by Gaeta and Questa. Both aircraft were forced to land with engine problems during the Damascus-Paris leg, the former at Ronchi dei Legionari, the latter at Punta Sabbioni; otherwise they would have certainly placed much higher.

One of the earliest BR.20s to be flown to Spain, distinguishable from the twin 7.7mm DR turret seen here at Tablada airport (Seville)
(R.J. Caruana Archives)

### Service Debut

Evaluations of the BR.20 in desert conditions were conducted with an example flown to Libya in June 1937 and assigned to the 14º Stormo based at Benina. Another pair joined this aircraft for trials and were later taken on charge by the 15º Stormo at Castel Benito. Meanwhile, six other machines were sent to Spain to join the Aviazione Legionaria's 35º Gruppo Bombardamento Veloce (fast bomber group) with the task of testing the BR.20 (together with the Breda Ba.64) in a fully

operational and combat environment. On their arrival at Tablada, one of the BR.20s involuntarily displayed its robust construction when it landed short of the runway after losing power from one of the engines; it ran through an orange grove and continued going until it reached the airfield, suffering only some scratches on the wing leading edges!

On 4 September 1937, the BR.20s took up residence at Soria, within easier reach of their intended targets in the vicinity of the river Ebro. They were formed into the 230a Squadriglia under the command of Nello Brambilla; the 231^ under the command of Duilio Fanali, equipped with the Ba.65, formed the other half of the 35° Gruppo. After months of familiarisation with the terrain, the BR.20s were transferred once again, this time to Tudela on 26 November, from where they began their real bombing operations two days later. During the first half of January 1938, they were heavily involved in support of ground troops defending Teruel. The FIAT bomber proved to be very stable, accurate in attacks and very fast. By the end of May, the 230a Squadriglia had taken part in 267 raids, totalling 2,052 flying hours, dropping some 580 tons of bombs.

Early in June, the unit moved to Puig Moreno where, on 19 July, it received a further seven aircraft from Italy, taken from the 7° Stormo. Ten Col Ugo Rampelli took over command of the Gruppo on 20 September 1938. Toward the end of the year, the BR.20s were required to oppose a massive counter-offensive in the vicinity of Barcelona until the city was occupied on 26 January 1939; four days later the 35° Gruppo fell under the command of Col Imperi. Final combat operations were flown at the end of March, as the Spanish Civil War coming to an end with the fall of Madrid. Nine BR.20s formed part of the victory line-up on 12 May at Madrid-Barajas airfield. Of the three BR.20s lost, two were involved in ground accidents, while the third was hit by anti-aircraft fire on 25 July 1938. Once the Italian crews returned home, the remaining BR.20s were handed over to the Spanish authorities.

Realising that the BR.20 could be a very saleable product, FIAT launched a sales campaign by exhibiting an early production example at the Milan Salone Internazionale Aeronautico (International Aviation Salon) in 1937 in the hope of attracting export orders. Apart from those donated to Spain as already mentioned above, and a few others passed on to Croatia, a single example was acquired by Venezuela and incorporated into its 3er Grupo de Bombardeo. It apparently served for a very short time, and little is known about its eventual fate.

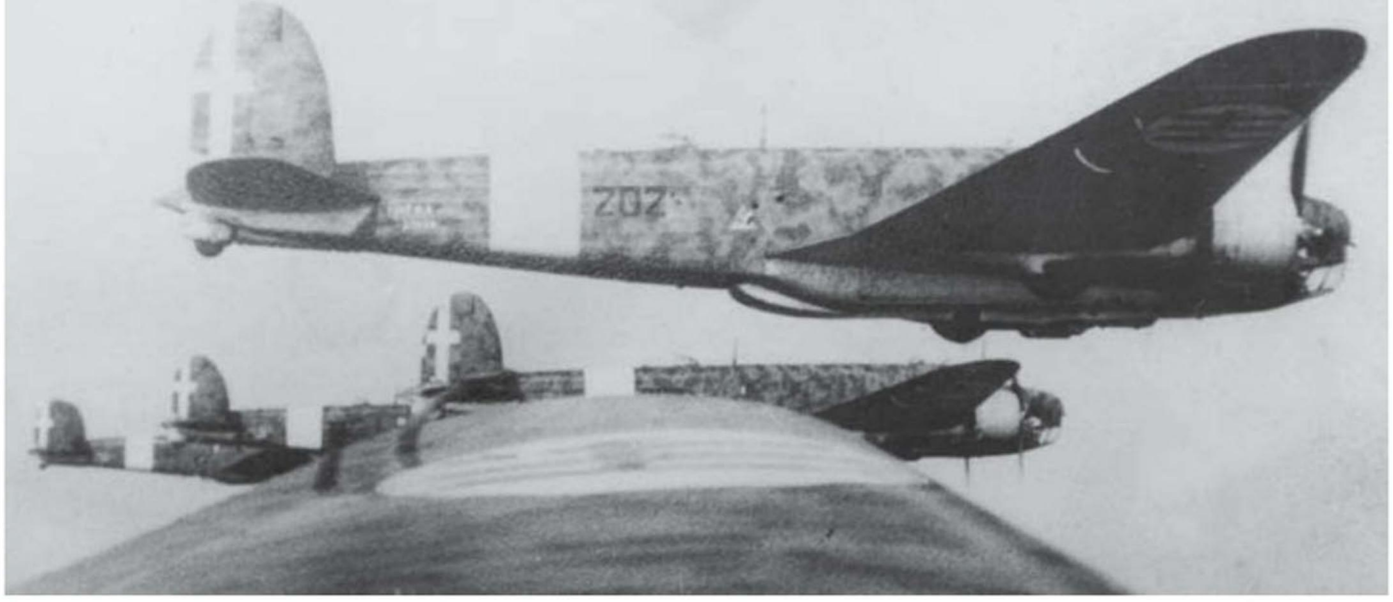
A most successful export deal was clinched with Japan in the face of competition from the Caproni Ca.135, for its Imperial Army Air Force (IJAADF). An order for 75 examples, together with extra engines and spare parts, was followed by another for a further ten a year later. Practically the entire FIAT BR.20 production for 1938 was shipped to Talien, where they were disembarked and ferried to Chushuitzu, where they were re-assembled by Japanese personnel under the guidance of Italian civil and military technicians.

The BR.20 was supplied to the 12th and 98th Sentai. It was designated Type I Model 100 (Allied code name 'Ruth') and was mainly used for operations against China. Notwithstanding the success the type had enjoyed in Spain, Japanese pilots generally complained about bad handling and frail construction, which in fact were the most positive features of the type. Criticism of engine malfunctions, however, were more than justified. Gradually the type was phased out in favour of the Mitsubishi Type 97, and surviving BR.20s were relegated to secondary and training roles.

Meanwhile, an extensive training programme on the BR.20 was conducted at Lonate Pozzolo for Regia Aeronautica units. Italian crews did not experience any difficulty adapting themselves to the new type and operational standards were significantly improved, especially when flying night sorties and over long distances.

Following the experience of the previous racing BR.20As, another cleaned-up version designated BR.20L bearing the name 'San Francesco' flew non-stop from Rome to Addis-Abeba on 6 March 1939 averaging a speed of 404km/h over the 4,500kms.

When Italy declared war on the Allies on 10 June 1940, 172 BR.20s were on strength with the Regia Aeronautica, principally within the 7° Stormo (4° and 25° Gruppi based at Lonate Pozzolo), 13° (11° and 43° Gruppi at Piacenza), 18° (31° Gruppo at Aviano) and 43° (98° and 99° Gruppi at Cameri). The 43°, 7° and 13°, based in the north of Italy, participated in the short campaign against France throughout the remaining days of that month. On 13 June, 19 BR.20s from the 13° Stormo attacked Fayence and Hyéres.


A flight of BR.20Ms of the 202a Squadriglia (40° Gruppo, 38° Stormo) during operations in Albania in the summer of 1941 (R.J. Caruana Archives)

By that time, a third of the BR.20s in service were of the new 'M' sub-type ('M' standing for 'modificato', or modified). This version was some 70cm longer than its predecessor and featured a redesigned nose with increased glazed area under the chin and a new nose turret. The tail cone was also extended, while the tailwheel, now completely enclosed, was moved further aft. These modifications raised both empty and loaded weight of the aircraft. This brought about a marked drop in the aircraft's performance. After testing at Lonate Pozzolo, the Borletti-Golnaghi bomb-aiming device replaced the Jozza sight. Apart from front-line medium bomber units, the 172a Squadriglia formed on 13 June 1940 was also equipped with six BR.20Ms for strategic reconnaissance missions, of which a number were performed over French territory.

After the French defeat, the BR.20 units returned to their normal routine, and were soon joined by the newly-formed 116° Stormo based at Lecce. Hoping to share the 'spoils' of an eventual victory, a Corpo Aereo Italiano (CAI - Italian Aviation Corps) was sent to Belgium to participate in the Battle of Britain. A force of 80 BR.20Ms from 13° and 43° Stormi were transferred in October 1940, with the former taking up residence at Melsbroek while the latter was based at Chèvres. Not all bombers arrived safely at their destination, as at least five were lost in transit after having been forced down to emergency landings due to bad weather. The fighter component of the group consisted of 56° Stormo, of which the 18° Gruppo was flying the FIAT CR.42 while the 20° was equipped with the FIAT G.50. Responsability for reconnaissance fell on the 172a Squadriglia, operating five Cant Z.1007s.

By the 22nd of the month the force had settled down and launched its operations on the 24th with an attack against Ramsgate; taking part were 12 BR.20s from the 13° Stormo and five from the 43°. Three of the bombers were lost and another damaged, resulting in the loss of an entire crew when their BR.20 crashed on take-off. A similar mission on 27 October had to be cancelled and was postponed to two days later; another BR.20 was destroyed. Ipswich and Harwich were attacked on 5 November, followed by another raid against Harwich and London on the 11th. Three other BR.20s were destroyed and a further three badly damaged during this operation, clearly showing that the CAI was ill-equipped for the task while fighter cover proved to be completely inadequate. During the following weeks, Great Yarmouth and Lowestoft were added to the list of targets visited, but not without paying a considerable price. Enemy activity against Britain started to run down during December; the last recorded BR.20 mission was performed on 2 January 1941 with four aircraft from the 13° Stormo against Ipswich. Two of these dropped out due to technical problems. By the time the CAI returned home later that month, 20 BR.20Ms had been lost.

Things were not much rosier on the Greek front where around 50 BR.20s were involved. This campaign was marked by bad planning and even worse timing, shortage of offensive ground forces and limited aerial resources due to the opening of too many fronts simultaneously. Between 1 November 1940 and 31 March 1941 meteorological conditions allowed flying during 77 days. During the rest, rain, heavy clouds and fog rendered operations extremely hazardous over difficult territory. Italian forces were eventually bailed out thanks to the determined intervention by their German allies in April, following which BR.20 units were diverted onto attacks against Yugoslavia.

Operations in Libya by the BR.20Ms of the 98° Gruppo commenced in March 1941, where the unit participated in the systematic night bombing of British-held positions. As from June they began to escort naval convoys which were being constantly

A Fiat BR.20M of the 31° Gruppo (18° Stormo) seen at Catania in June 1941. This view shows to advantage the modified nose of this version (R.J. Caruana Archives)

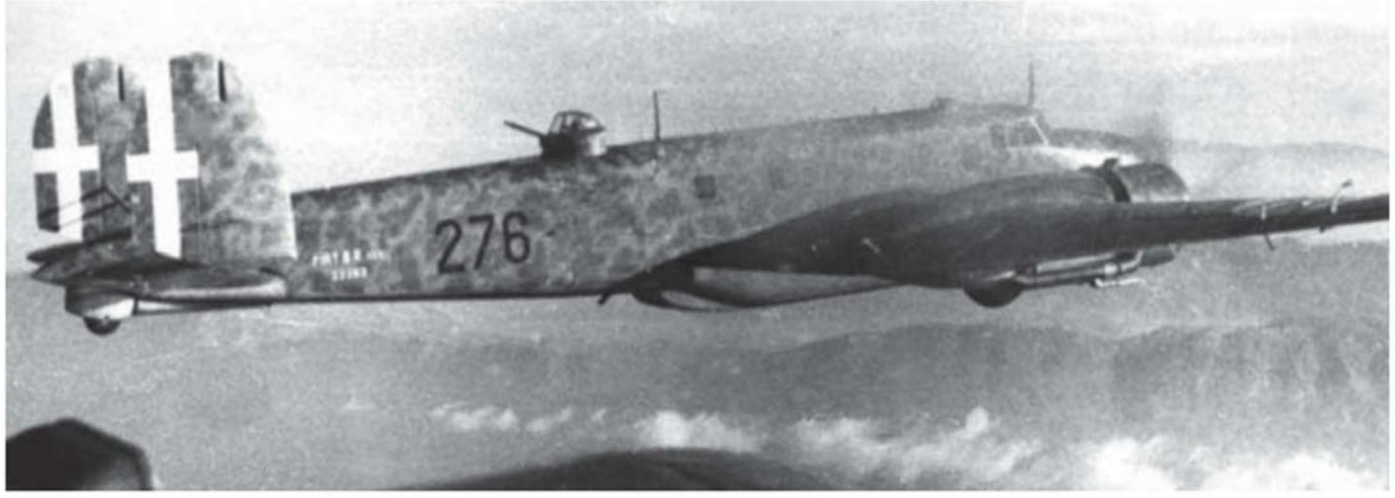
harassed by air and sea forces from Malta. The 13° Stormo was another unit flying the BR.20 which operated in North Africa between July 1941 and April 1942.

Toward the end of April 1941, most of the bombing raids against Malta were switched to night-time due to the high losses being suffered by both German and Italian attackers at the hand of the Island's fighter defence force. The first appearance in Sicily of the FIAT BR.20M is recorded as 7 May 1941, when the 99° Gruppo of the 43° Stormo under the command of Ten Col Sergio Lalatta arrived at Gerbini from Lonate Pozzolo. This unit was required to fill the gap in the offensive role left after the withdrawal of X Fliegerkorps which had been operating against Malta since the beginning of the year.

By the 22nd of the month, everything was ready for combat missions to commence, in spite of a serious epidemic of malaria suffered by some of the unit's personnel; Gerbini, up to that time, was a deserted swamp area. That night the BR.20s launched their first attack only to realise that the opposition was following them every inch of the way. Malta's Beaufighters picked on these bombers from the moment they took off until the aircraft returned to their parking lot back at base!

On 11 June, a second BR.20 unit arrived in Sicily, belonging to the 31° Gruppo of the 18° Stormo, based at Catania-Fontanarossa. While Gerbini had, for a short time, remained undetected as the base from where the BR.20s were operating, Catania was well known, and it bore the brunt of Malta's bomber raids. During the period between May and September 1941, the two gruppi performed numerous incursions by night over Malta, sustaining considerable losses. From the original force of 25 aircraft, half were lost in action or in accidents. On the night of 5 August, the commander of the 99° Gruppo, Nello Brambilla, was shot down over Malta – he was one of the most experienced bomber pilots in the Regia Aeronautica.

By October both units had suffered such a high attrition, that they had to be withdrawn to Lecce-Galatina, and then to Milano-Bresso for re-equipment. Their places were taken by the 55° Gruppo at Gerbini and the 116° Gruppo at Fontanarossa. The latter suffered immensely at the hands of the Malta Night Fighter Unit and had to be replaced by the 40° Gruppo, which did not fare much better. The arrival of II Fliegerkorps in December 1941, to resume operations against Malta early the following year, relieved the long-suffering BR.20 units until the second half of 1942 when they were required to return to Sicily. This time, the 116° Gruppo was accompanied by the 88°; losses remained high and by October 1942 these units possessed only two combat efficient BR.20Ms between them. By December, Malta's siege had been lifted and enemy bombers only managed to mount nuisance raids on isolated occasions.




The 276^ Squadriglia (116° Gruppo, 37° Stormo) was one of the many Regia Aeronautica units to have operated against Malta. This unit begun such missions from its Sicilian base on 5 October, 1941
(R.J. Caruana Archives)

Meanwhile, the 55° Gruppo had moved its 12 BR.20s to Milis (Sardegna) after the Anglo-American landings in Algeria in November 1942, to be able to perform night operations against the North African coast, and provide maritime surveillance during the day.

A tragic episode for the Regia Aeronautica was Italy's unwise decision to participate in the Russian campaign. An initial batch of three BR.20s from the 38a Squadriglia arrived in Russia on 3 August 1942. This unit belonged to the 71° Gruppo Osservazione Aerea (Air Observation Group) in support of the Caproni Ca.311s. On 5 September they were joined by three more from the 43° Stormo. Five more aircraft were supplied on 9 December so that all the BR.20s could be formed into two Squadriglie, the 38a and 116a at Odessa. The severe Russian winter forced these aircraft to fly on several occasions with undercarriage and guns completely frozen and inoperable. By 11 December, the massive Soviet counter-offensive had reached the Italian-held sector, and after a week of fierce fighting the Axis lines had been penetrated. This marked the beginning of a catastrophic retreat, during which the 71° Gruppo was reduced to a mere shadow, returning home on 13 april 1943 with only six BR.20s, as all the Capronis had been either destroyed or rendered unserviceable.

By that time, a good number of the BR.20s had been relegated to training duties. The rest, although still on strength with front line units, were mainly based in Yugoslavia and Albania. The 74 BR.20s and 151 BR.20Ms on inventory as at 31 July 1943 appear to have disappeared by the time of the Armistice in September, when Italian territory was split into two, with the Co-Belligerent forces joining the Allied side in the south, and the Republican forces maintaining their allegiance to their German allies in the north, where the airforce of the Republica Sociale took over a small number of BR.20s. Those in the Balcans were requisitioned by the Germans, but remained unused at their bases where they met their end at the hands of American bombers. It appears that some examples were taken to Germany, but their fate is unknown.

The Co-Belligerent Air Force in the south appears to have had five BR.20s on strength, of which one had escaped from Albania. This was incorporated into the Raggruppamento Bomardamento e Trasporto (Bomber and Transport Group) at Lecce-Galatina. At least one is known to have survived up to 7 June 1946, serving with the newly-formed Aeronatica Militare Italiana (AMI).

The prototype (MM.456) of an improved version, designated BR.20 bis, had flown in February 1942. It was powered by a pair of FIAT A.82 RC.42 engines offering 1,250hp at 4,200m. Apart from the new engines, the aircraft sported a completely redesigned nose, a Breda dorsal turret, retractable tailwheel and a slightly lengthened fuselage and increased wing area. There was little appreciable improvement, except for a slightly better climb rate and a maximum speed of 438km/h at 5,000m. Fifteen examples of this version had been produced between March and September 1943, when production came to an end.

Although it displayed a significant technological advance at the time of its conception, continuous development of the BR.20, which would have enabled it to survive in a rapidly-evolving aeronautical environment, was neglected for far too long. With 580 aircraft of this type built (not including the 'bis') it represents the most important medium bomber on the Regia Aeronautica's inventory during the Second World War, and was only second in overall importance to the better known Savoia Marchetti S.79.

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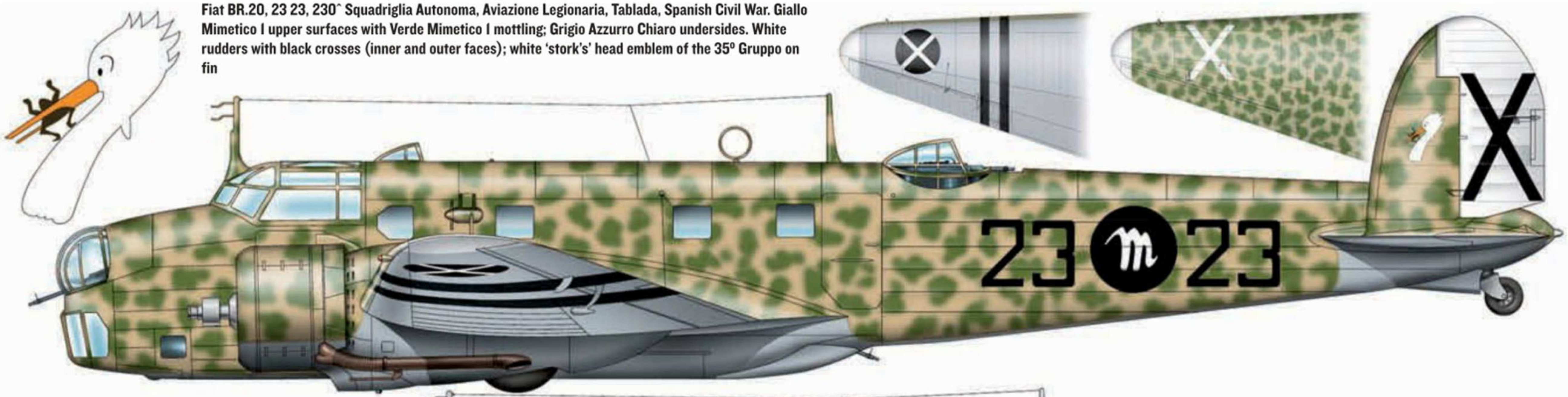
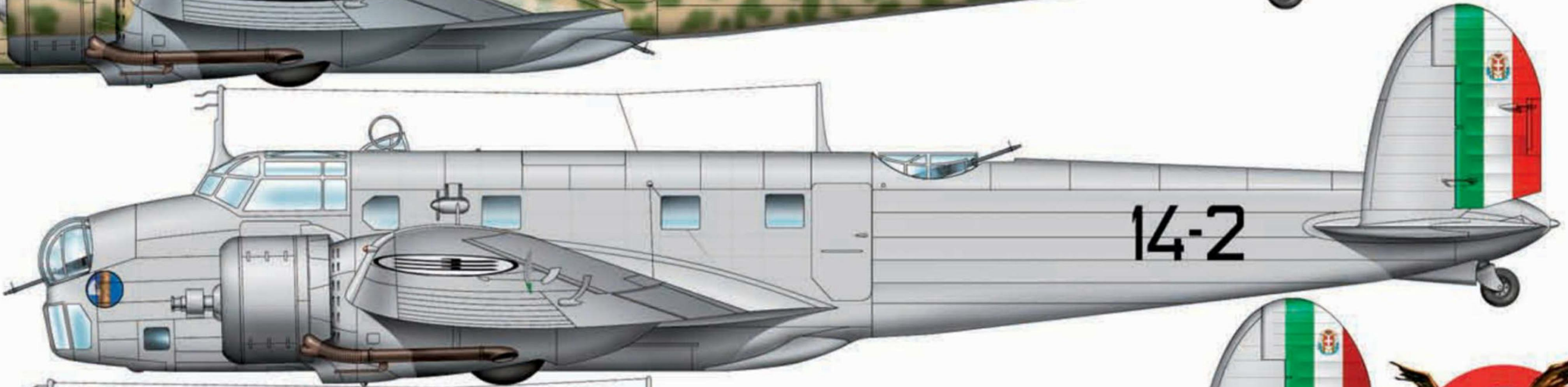
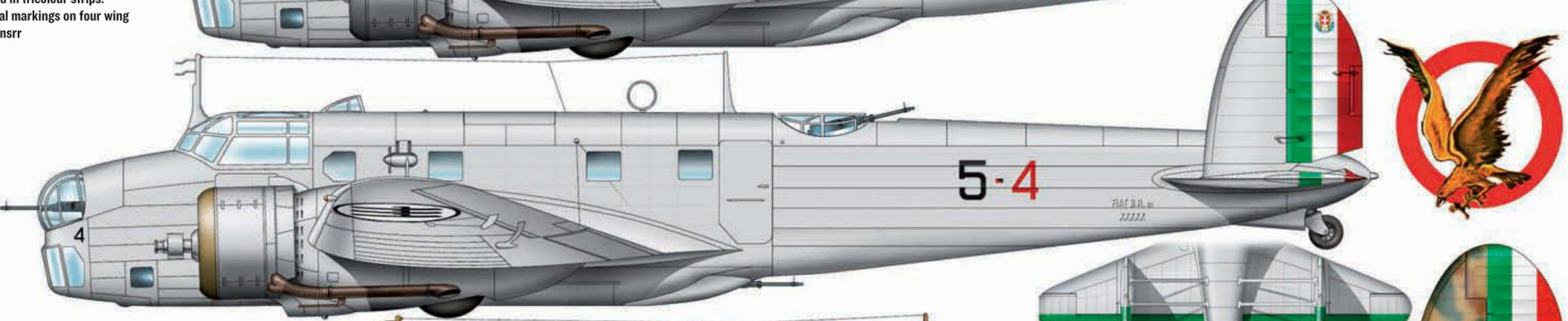
Fiat BR.20, 23 23, 230^ Squadriglia Autonoma, Aviazione Legionaria, Tablada, Spanish Civil War. Giallo Mimetico I upper surfaces with Verde Mimetico I mottling; Grigio Azzurro Chiaro undersides. White rudders with black crosses (inner and outer faces); white 'stork's' head emblem of the 35º Gruppo on fin




Below: Fiat BR.20, 14^ Squadriglia, 4º Gruppo, 7º Stormo BT Regia Aeronautica, Lonate Pozzolo, early 1937. Aluminim dope overall with national markings (white backing) in four wing positions. Green/white/red tricolour on fins (inner and outer faces)

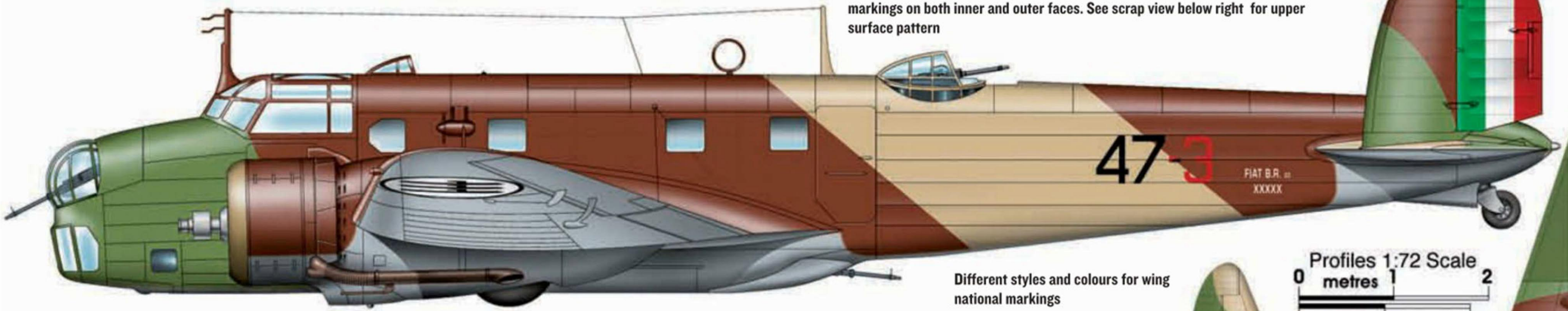


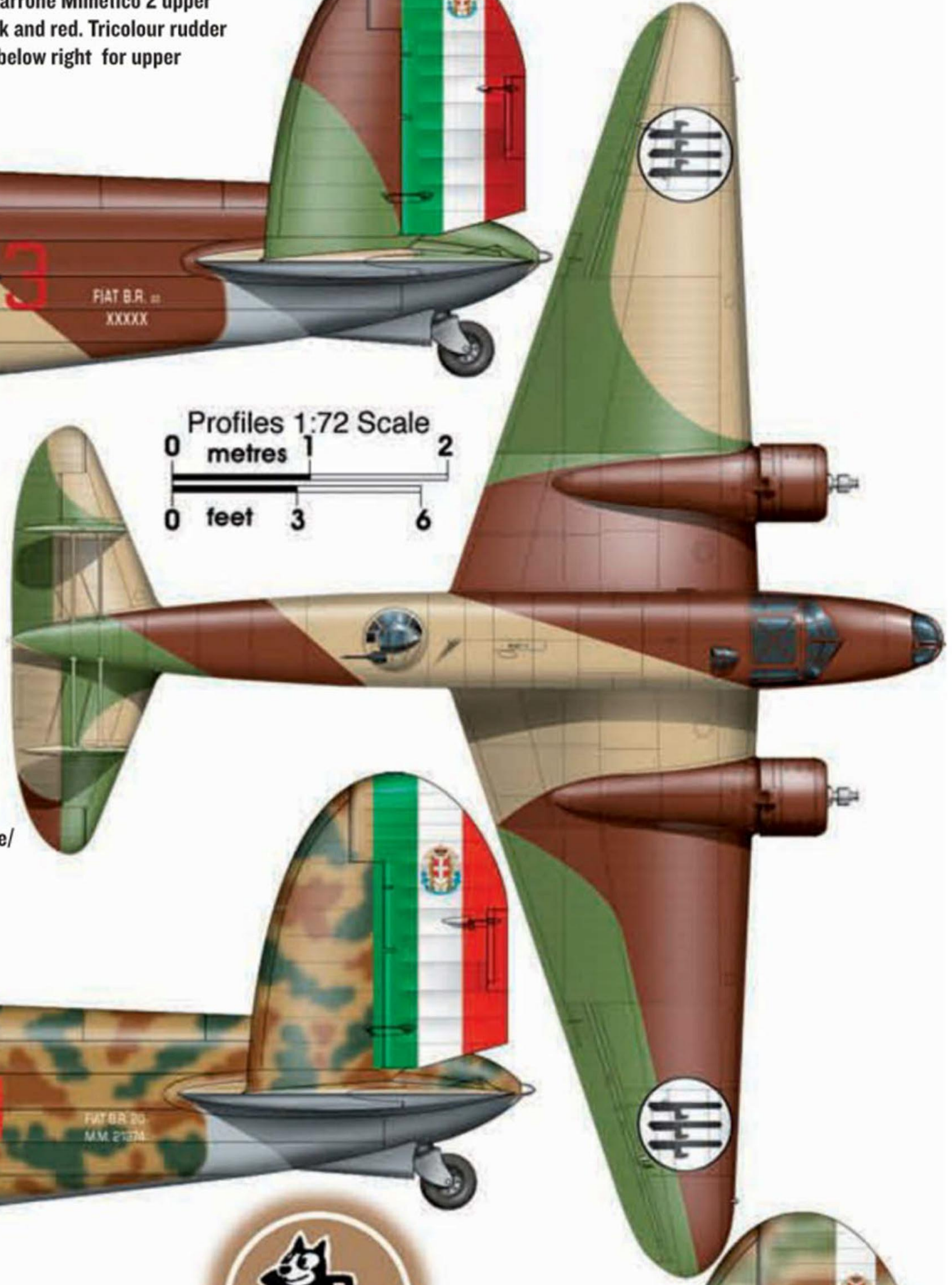

Fiat BR.20, 5-4, 5^ Squadriglia, 43º Gruppo, 13º Stormo BT Regia Aeronautica, Piacenza, spring 1937. Aluminium dope overall with codes in black and red. Vertical and horizontal moveable tail surfaces finished in tricolour strips. National markings on four wing positionsrr




Fiat BR.20, MM.21719, 235-2, 235^ Squadriglia, 60º Gruppo, 41º Stormo BT Regia Aeronautica, Jesi, July 1939. Giallo Mimetico 3 upper surfaces with Verde Mimetico 3 and Marrone Mimetico mottling; Grigio Azzurro Chiaro undersides. National markings with white backing in four wing positions; green/white/red stripes on rudder. Note Stormo badge behind fuselage codes

Fiat BR.20, 47-3, 47^ Squadriglia, 37º Gruppo, 18º Stormo BT Regia Aeronautica, Aviano, 1939. Giallo Mimetico 3, Verde Mimetico 1 and Marrone Mimetico 2 upper surfaces with Grigio Mimetico undersides. Codes in black and red. Tricolour rudder markings on both inner and outer faces. See scrap view below right for upper surface pattern

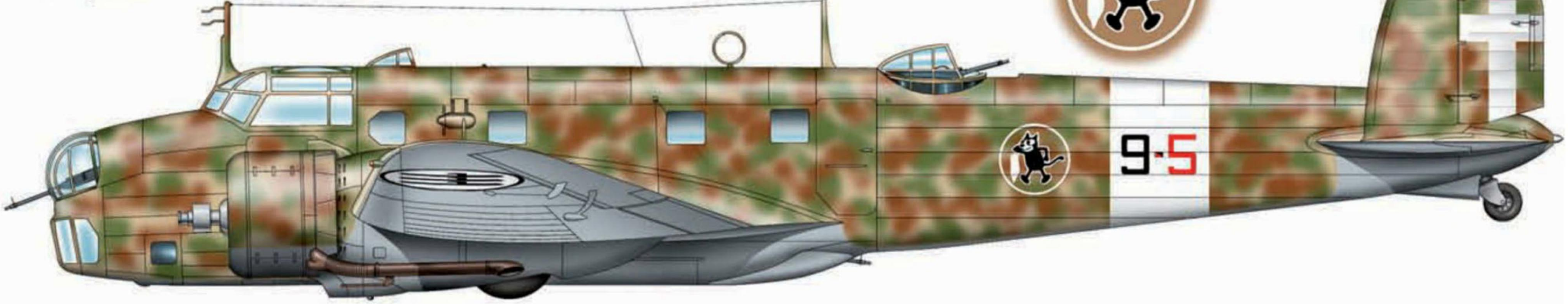


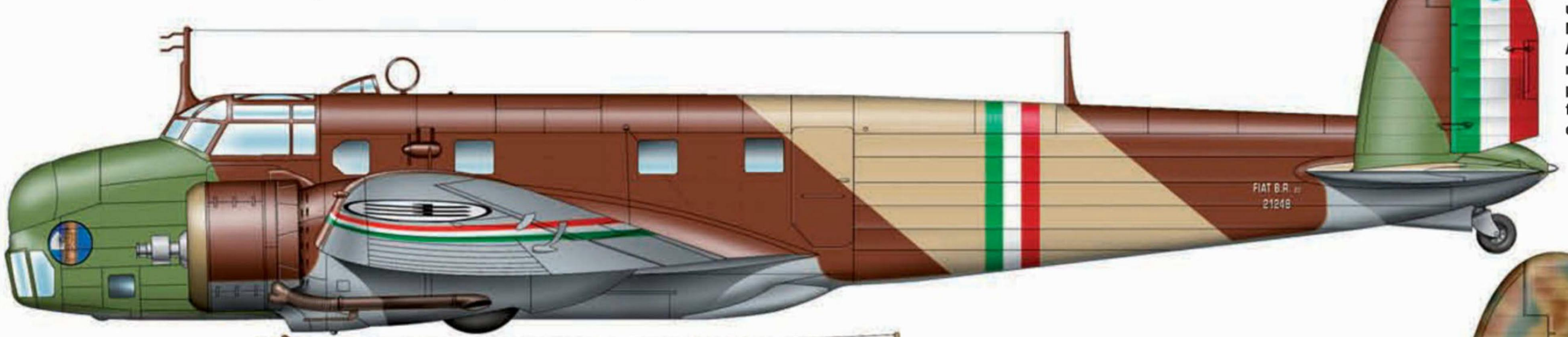

Different styles and colours for wing national markings

Fiat BR.20, MM21274, 5-3, 5^ Squadriglia, 43º Gruppo, 13º Stormo BT Regia Aeronautica. Giallo Mimetico 3 upper surfaces with mottling in Verde Mimetico 3 and Marrone Mimetico. Undersurfaces in Grigio Azzurro Chiaro. National markings with white backing in four wing positions. Rudder in gree/white/red. Note 'La Maladetta' emblem on fuselage, facing forward both sides

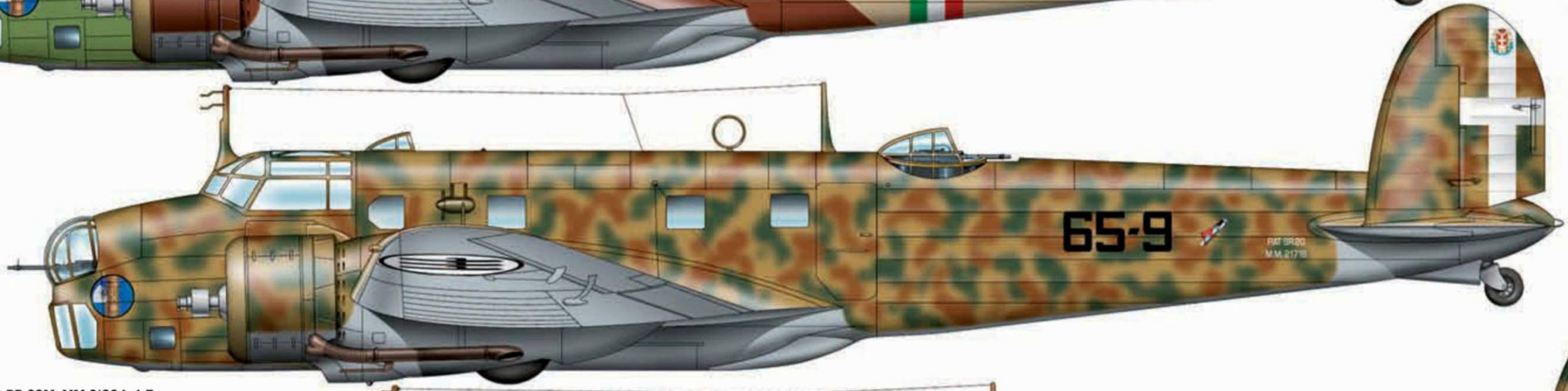
Fiat BR.20, 9-5, 9^ Squadriglia, 25º Gruppo, 7º Stormo BT Regia Aeronautica, Ghemme, June 1940. Giallo Mimetico 1 upper surfaces with Verde Mimetico 1 and Marrone Mimetico mottling; Grigio Azzurro Chiaro undersides. National markings with white backing in four wing positions; white band around rear fuselage and white cross on rudders (inner and outer faces)



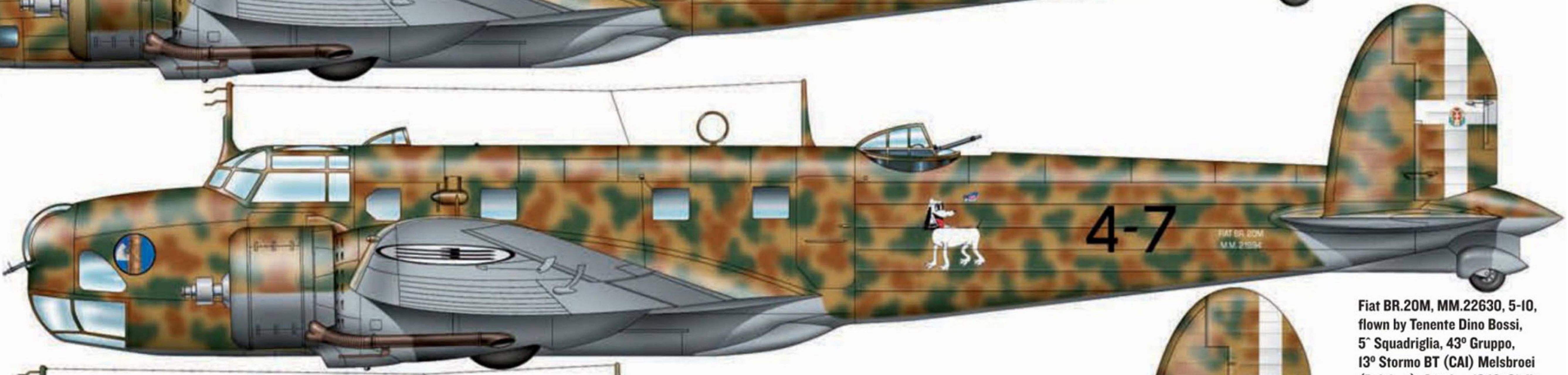
Fiat BR.20, 9-5, 9^ Squadriglia, 25º Gruppo, 7º Stormo BT Regia Aeronautica, Ghemme, June 1940. Giallo Mimetico 1 upper surfaces with Verde Mimetico 1 and Marrone Mimetico mottling; Grigio Azzurro Chiaro undersides. National markings with white backing in four wing positions; white band around rear fuselage and white cross on rudders (inner and outer faces)



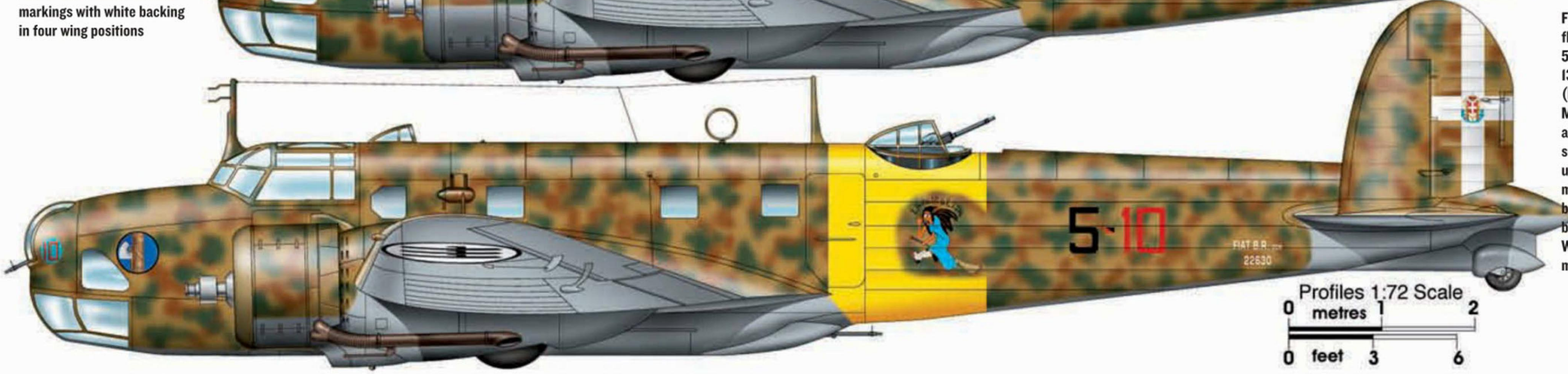
Below: Fiat BR.20, MM.21718, 65-9, 65^ Squadriglia, 31º Gruppo, 18º Stormo BT Regia Aeronautica. Giallo Mimetico 3 upper surfaces with mottling in Verde Mimetico 3 and Marrone Mimetico; Grigio Azzurro Chiaro undersides. National markings with white backing in four positions. White cross on inner and outer faces of fins. Note the very small unit emblem just aft of the fuselage codes




Fiat BR.20M, MM.21894, 4-7, 4^ Squadriglia, 11º Gruppo, 13º Stormo, Corpo Aereo Italiano (CAI) operating against Britain from Melsbroek, Belgium. Giallo Mimetico 3 upper surface with mottling in Verde Mimetico 3 and Marrone Mimetico; Grigio Azzurro Chiaro undersides. National markings with white backing in four wing positions



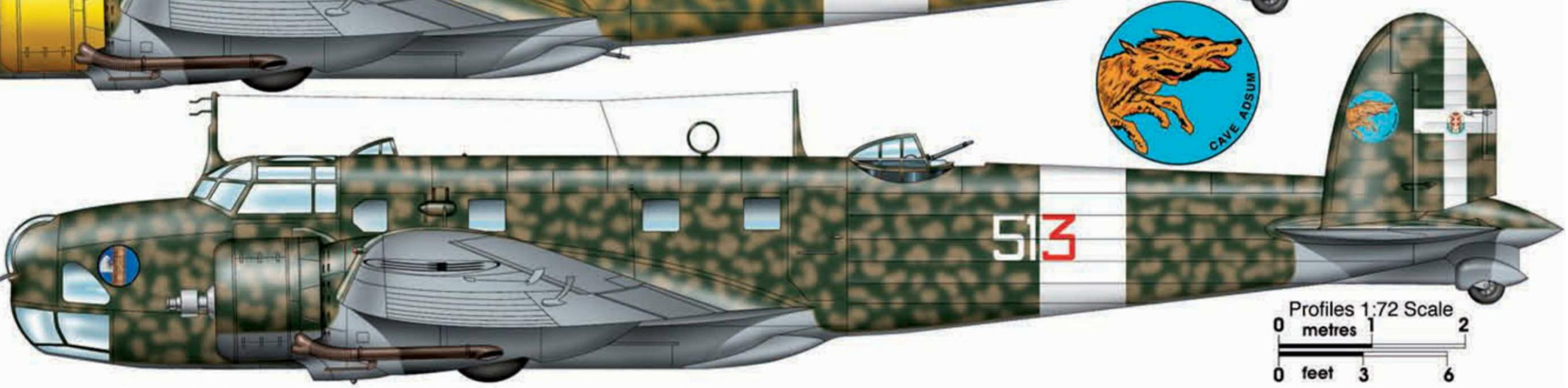

Fiat BR.20M, MM.22630, 5-10, flown by Tenente Dino Bossi, 5^ Squadriglia, 43º Gruppo, 13º Stormo BT (CAI) Melsbroei (Belgium), October 1940. Giallo Mimetico 3, Verde Mimetico 3 and Marrone Mimetico 2 upper surfaces with Grigio Mimetico undersides; Giallo Cromo mid-fuselage band. Codes in black and red; 'La Maledetta' badge on fuslage sides. White background to national markings in four wing positions



Fiat BR.20M, MM.21892, 1-6, 1^ Squadriglia, 11º Gruppo, 13º Stormo BT (CAI), Melsbroek (Belgium), November 1940. Giallo Mimetico 3, Verde Mimetico 3 and Marrone Mimetico 2 upper surfaces; Grigio Mimetico undersides. White background to national markings in four wing positions. '6' repeated on nose; note two version of 'Donald Duck', one on fuselage and another on fin

Fiat BR.20, MM.22267, 242-3, flown by Tenente Antonio Poggi and Tenente Ezio Squazzini of 242^ Squadriglia, 99º Gruppo, 43º Stormo BT (CAI), Chièvres, October 1940. Giallo Mimetico 3, Verde Mimetico 3 and Marrone Mimetico 2 upper surfaces with Grigio Mimetico undersides; Yellow fuselage band. '3' repeated in white on nose. White backing to national markings

Fiat BR.20M, 3-6, 3^ Squadriglia, 43º Gruppo, 13º Stormo BT Regia Aeronautica, April 1941. Giallo Mimetico 3 upper surfaces with Verde Mimetico 3 mottling; Grigio Azzurro Chiaro undersides. Giallo Cromo cowlings. National markings in four wing positions in black only




Fiat BR.20M, 51-3, 51^ Squadriglia, 39º Gruppo, 38º Stormo BT Regia Aeronautica, Tirana, June 1941. Verde Oliva upper surfaces with Nocciola Chiaro mottling; Grigio Azzurro Chiaro undersides. National markings in black only in four wing positions

Profiles 1:72 Scale

0 metres 1 2

0 feet 3 6

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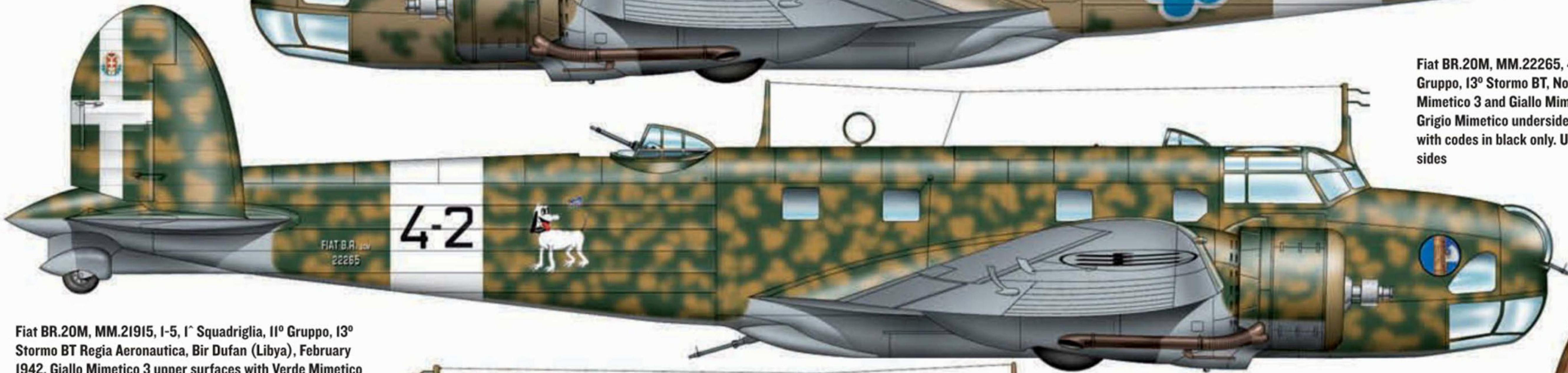
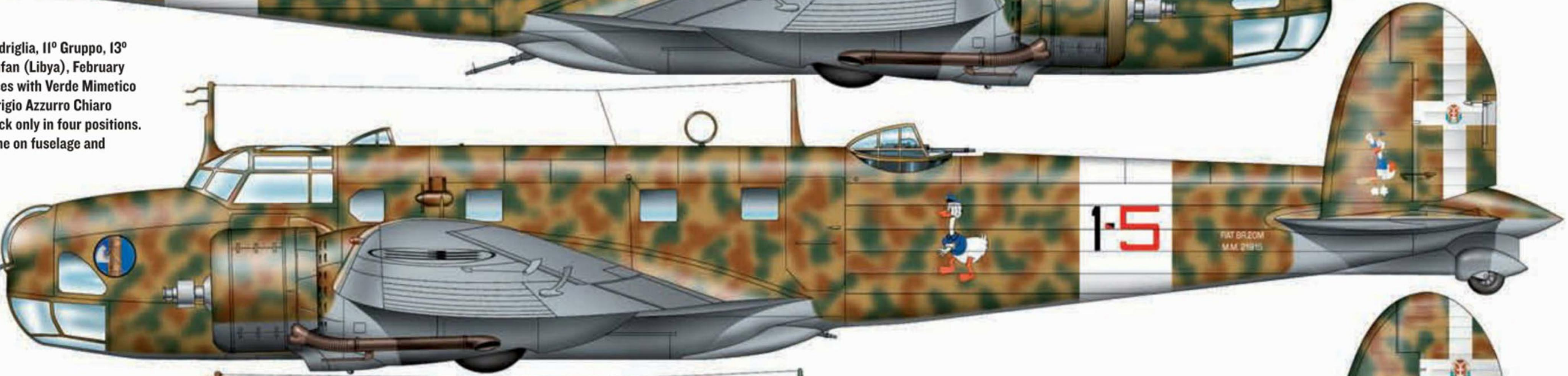
Fiat BR.20M. MM.22710, 3-3, 3^ Squadriglia, 43º Gruppo, 13º Stormo BT Regia Aeronautica, Bir Dufan (North Africa), December 1941. Nocciola Chiaro upper surfaces with Verde Oliva Scuro mottling; Grigio Azzurro Chiaro undersides. National markings in black only in four wing positions

Fiat BR.20M, MM.22265, 4-2, 4^ Squadriglia, 11º Gruppo, 13º Stormo BT, Northern Italy, late 1940. Verde Mimetico 3 and Giallo Mimetico 4 upper surfaces with Grigio Mimetico undersides. White rear fuselage band with codes in black only. Unit badge on both fuselage sides



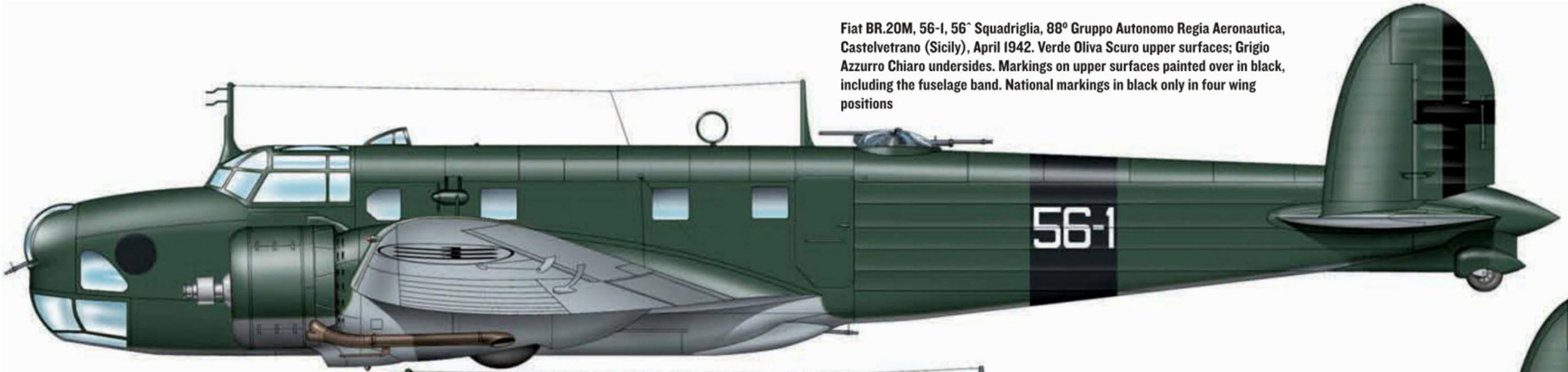

Fiat BR.20M, MM.21915, 1-5, 1^ Squadriglia, 11º Gruppo, 13º Stormo BT Regia Aeronautica, Bir Dufan (Libya), February 1942. Giallo Mimetico 3 upper surfaces with Verde Mimetico 3 and Marrone Mimetico mottling; Grigio Azzurro Chiaro undersides. National markings in black only in four positions. Note two version of 'Donald Duck', one on fuselage and another on fin



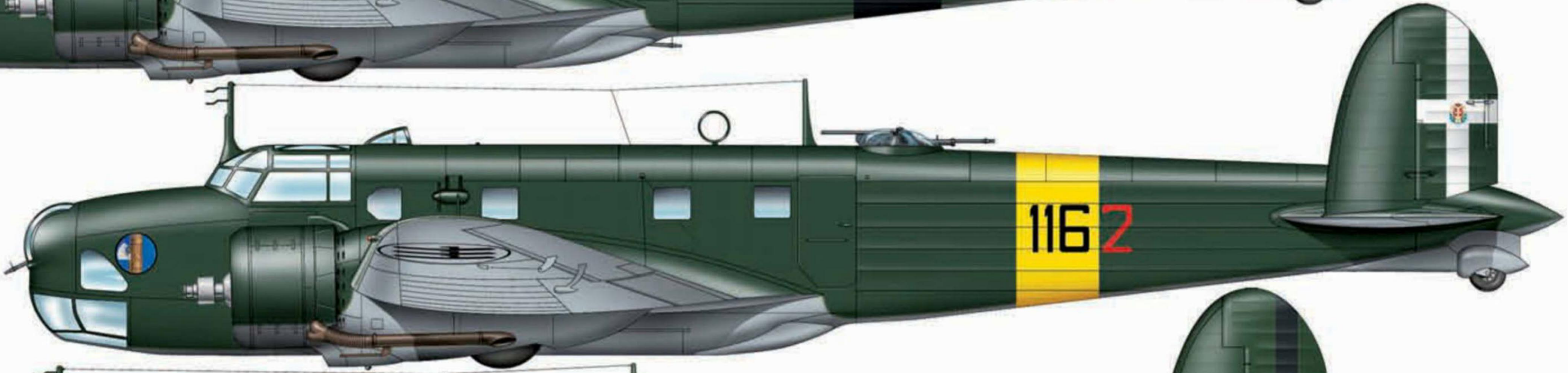

Fiat BR.20M, 277-2, 277^ Squadriglia, 116º Gruppo, 37º Stormo BT Regia Aeronautica, Lecce, April 1942. Giallo Mimetico 3 upper surfaces with Verde Mimetico 3 and Marrone Mimetico mottling; Grigio Azzurro Chiaro undersides. Giallo Cromo cowlings; individual number '2' is repeated on the nose in red within a yellow circle

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

Fiat BR.20M, 56-1, 56ˆ Squadriglia, 88º Gruppo Autonomo Regia Aeronautica, Castelvetrano (Sicily), April 1942. Verde Oliva Scuro upper surfaces; Grigio Azzurro Chiaro undersides. Markings on upper surfaces painted over in black, including the fuselage band. National markings in black only in four wing positions

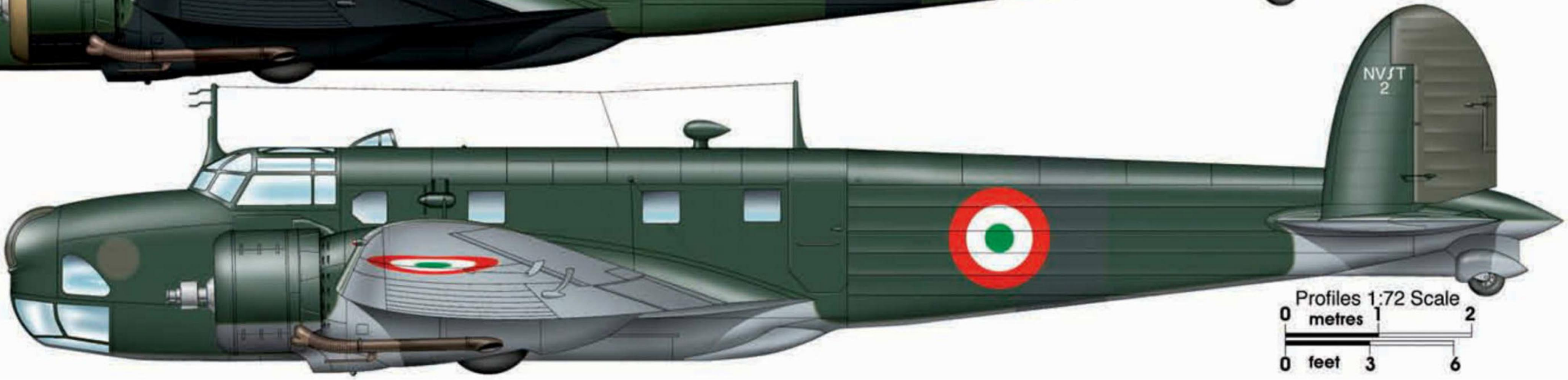



Below: Fiat BR.20M, 116-2, 116ˆ Squadriglia, 71º Gruppo Osservazione Aerea Regia Aeronautica, Voroscilovgrad (Russia), winter 1942-43. Verde Oliva Scuro upper surfaces; Grigio Azzurro Chiaro undersides. Yellow fuselage band. National markings in black only in four wing positions

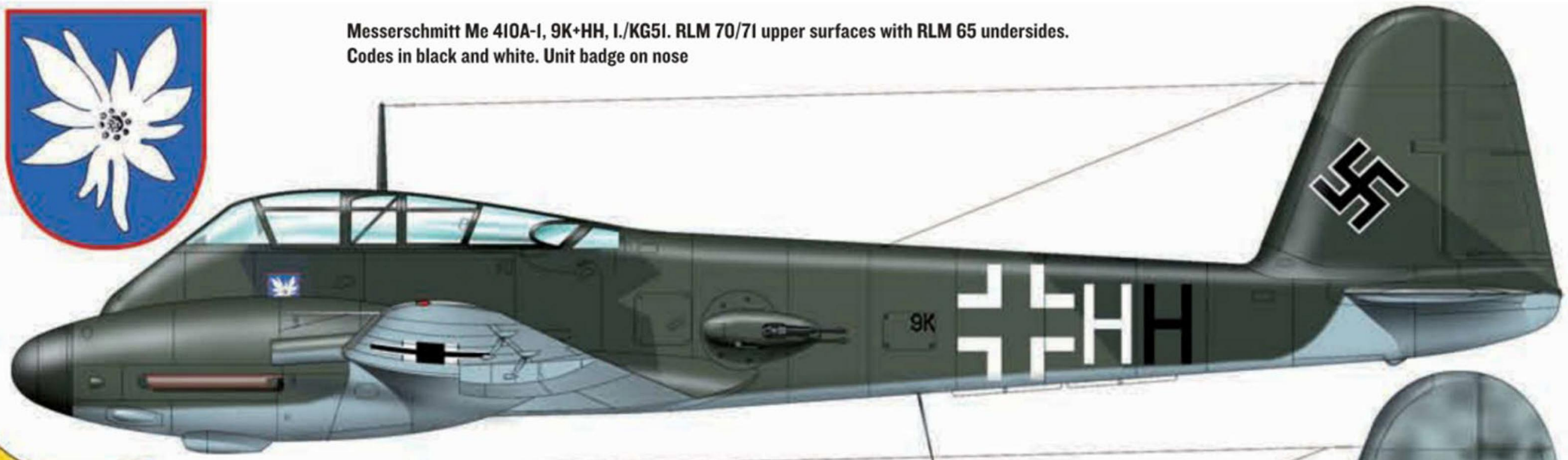



Fiat BR.20M, 56-8, 56ˆ Squadriglia, 88º Gruppo Autonomo BT, Comiso (Sicily), 1942. Verde Oliva Scuro upper surfaces with all undersides and identification markings overpainted in black. Individual number '8' in red on fuselage sides

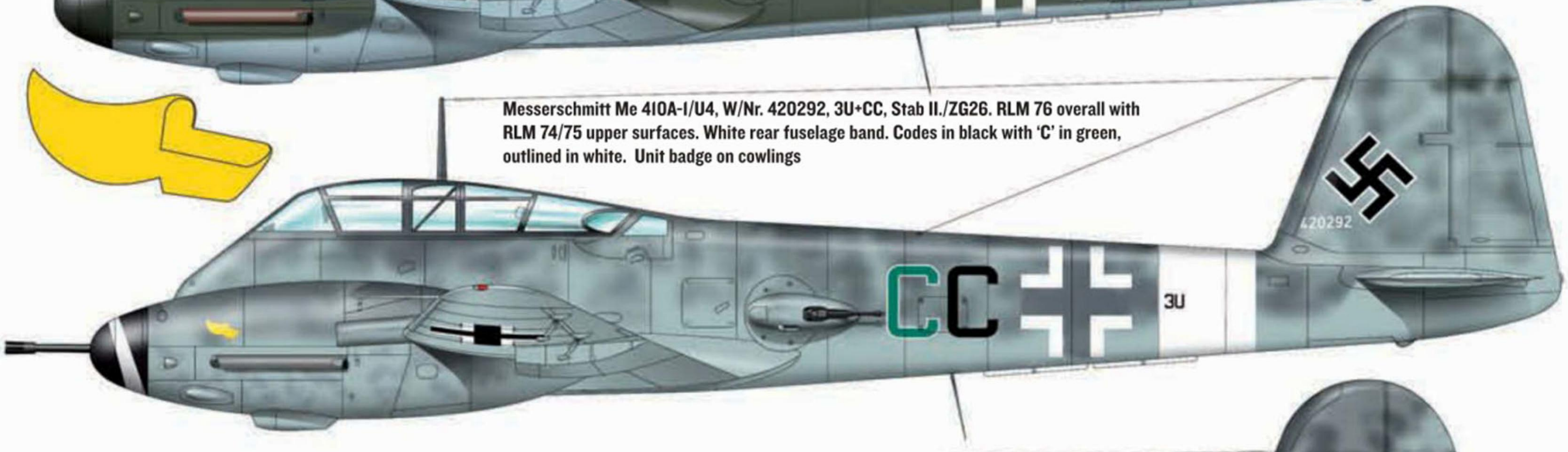
Fiat BR.20M, NVST2, Italian Co-Belligerent Air Force for transport duties, 1944. Verde Oliva Scuro uppersurfaces; Grigio Azzurro Chiaro undersides. entire rudder and previous markings on upper surfaces painted over (probably in Olive Drab); red/white/green roundels in six positions



**Messerschmitt Me 410A-1, 9K+HH, I./KG51. RLM 70/71 upper surfaces with RLM 65 undersides. Codes in black and white. Unit badge on nose**

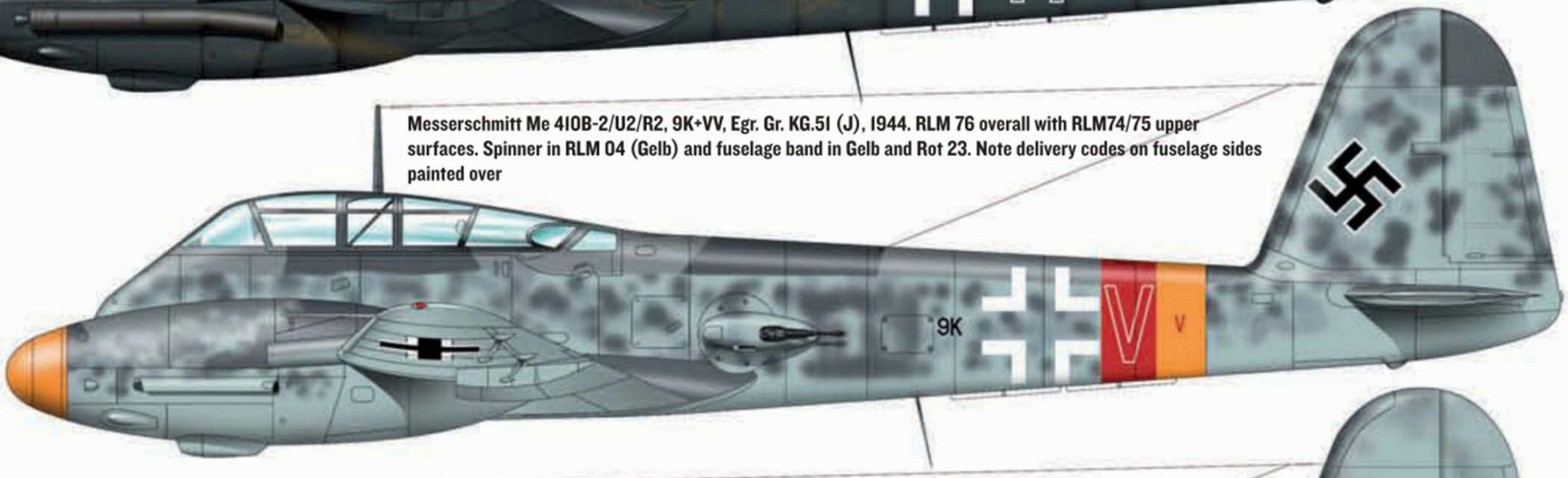


**Messerschmitt Me 410A-1/U4, W/Nr. 420292, 3U+CC, Stab II./ZG26. RLM 76 overall with RLM 74/75 upper surfaces. White rear fuselage band. Codes in black with 'C' in green, outlined in white. Unit badge on cowlings**

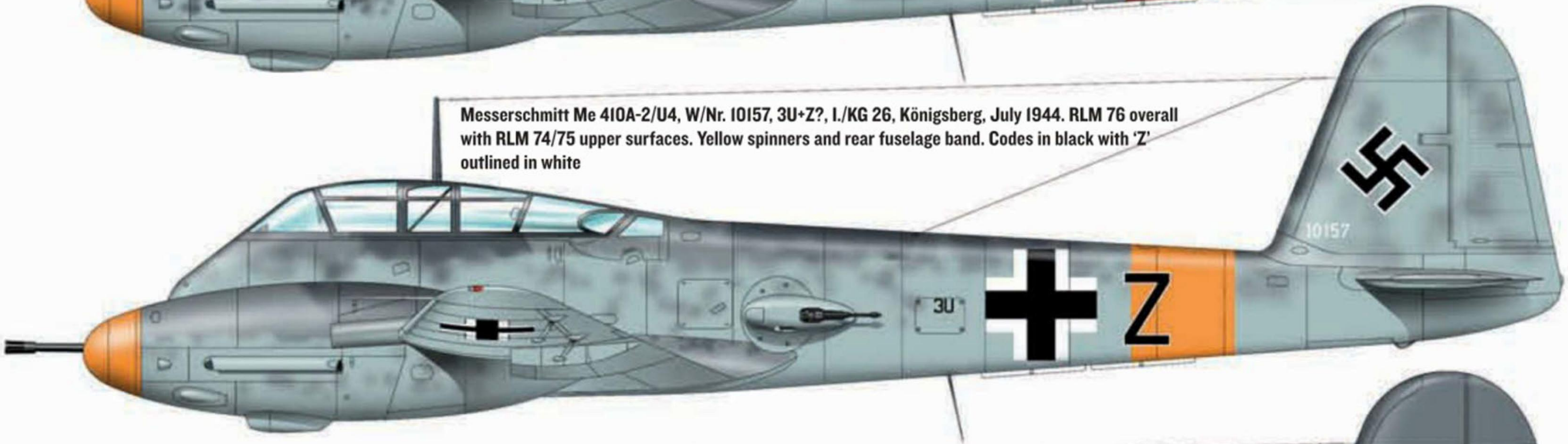


**Messerschmitt Me 410A-1, W/Nr. 420085, U5+HE, 14./KG 2, Late 1942. RLM 74/75 upper surfaces with black undersides; traces of the original RLM 76 remain on the vertical tail surfaces. White 'H' in outline only. Green front tip of spinner**

**Messerschmitt Me 410B-2/U2/R2, 9K+VV, Egr. Gr. KG.51 (J), 1944. RLM 76 overall with RLM74/75 upper surfaces. Spinner in RLM 04 (Gelb) and fuselage band in Gelb and Rot 23. Note delivery codes on fuselage sides painted over**



**Messerschmitt Me 410A-2/U4, W/Nr. 10157, 3U+Z?, I./KG 26, Königsberg, July 1944. RLM 76 overall with RLM 74/75 upper surfaces. Yellow spinners and rear fuselage band. Codes in black with 'Z' outlined in white**



**Messerschmitt Me 410, W/Nr.420430, TF209, Royal Aircraft Establishment, Farnborough. Ocean Grey/Dark Green upper surfaces with Ident Yellow undersides; standard RAF markings of the period**

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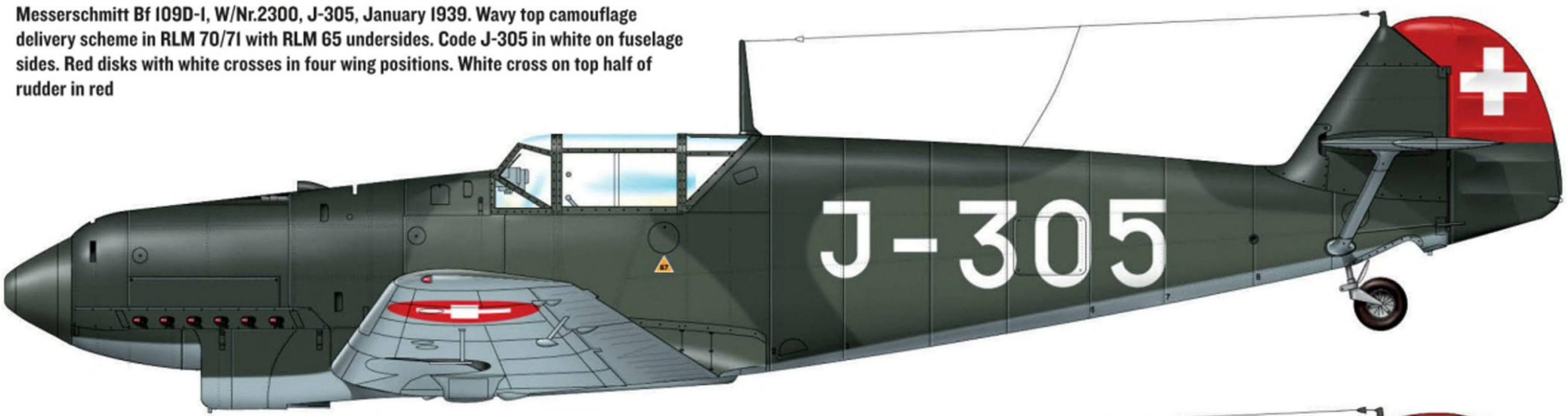
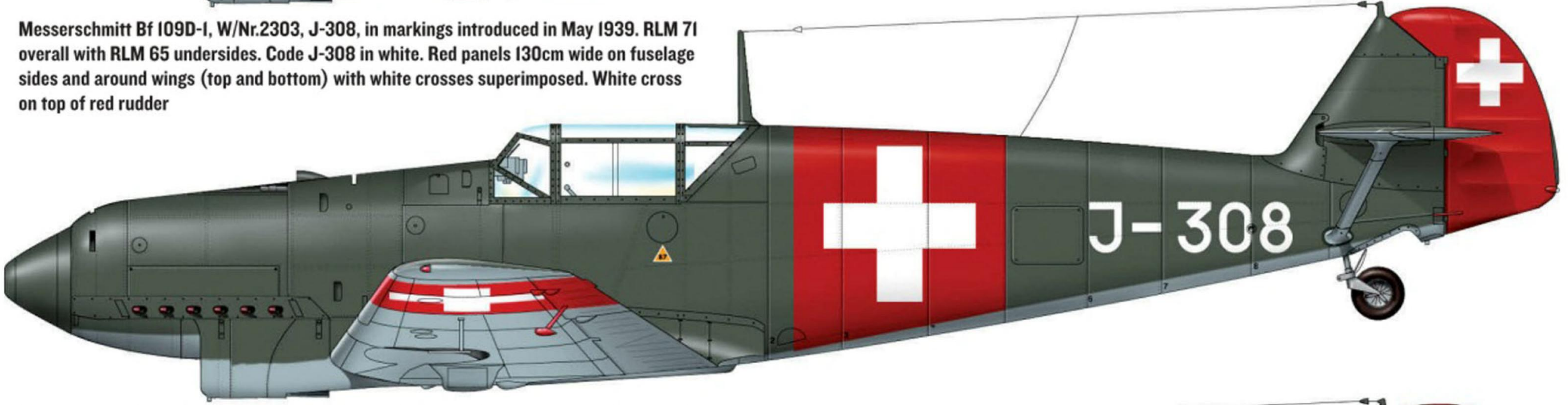
# ANTI-CAMOUFLAGE

## SWISS Bf 109D-1/E-3

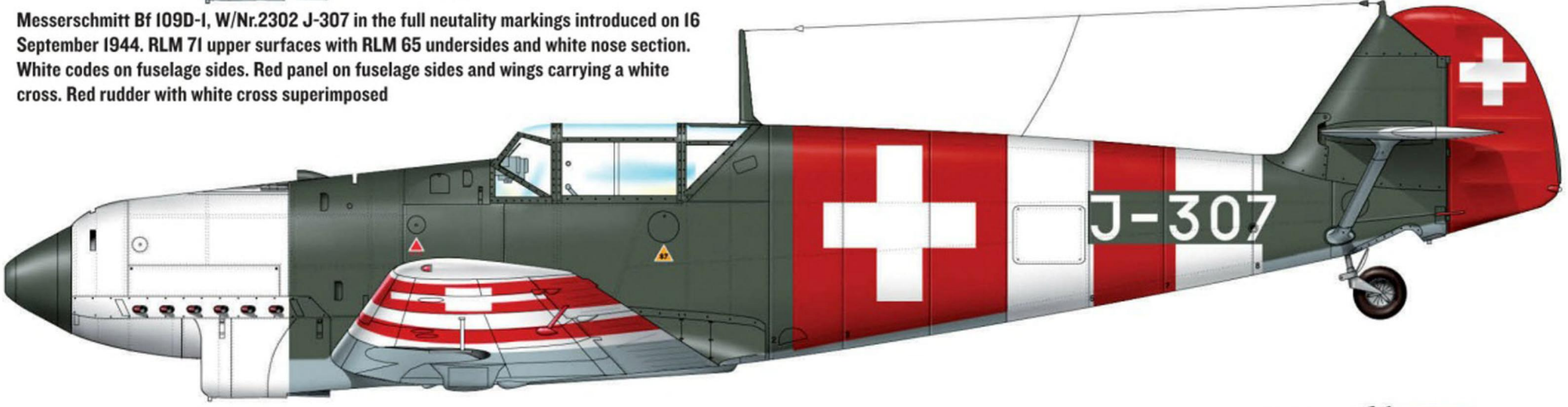
Messerschmitt Bf 109D-1, W/Nr.2300, J-305, January 1939. Wavy top camouflage delivery scheme in RLM 70/71 with RLM 65 undersides. Code J-305 in white on fuselage sides. Red disks with white crosses in four wing positions. White cross on top half of rudder in red



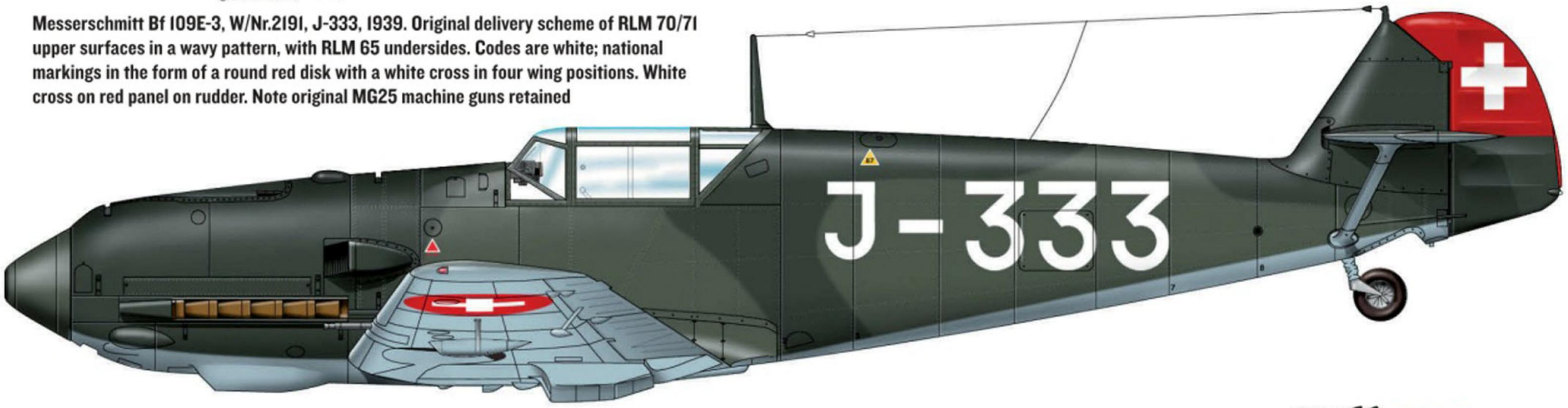

Messerschmitt Bf 109D-1, W/Nr.2303, J-308, in markings introduced in May 1939. RLM 71 overall with RLM 65 undersides. Code J-308 in white. Red panels 130cm wide on fuselage sides and around wings (top and bottom) with white crosses superimposed. White cross on top of red rudder



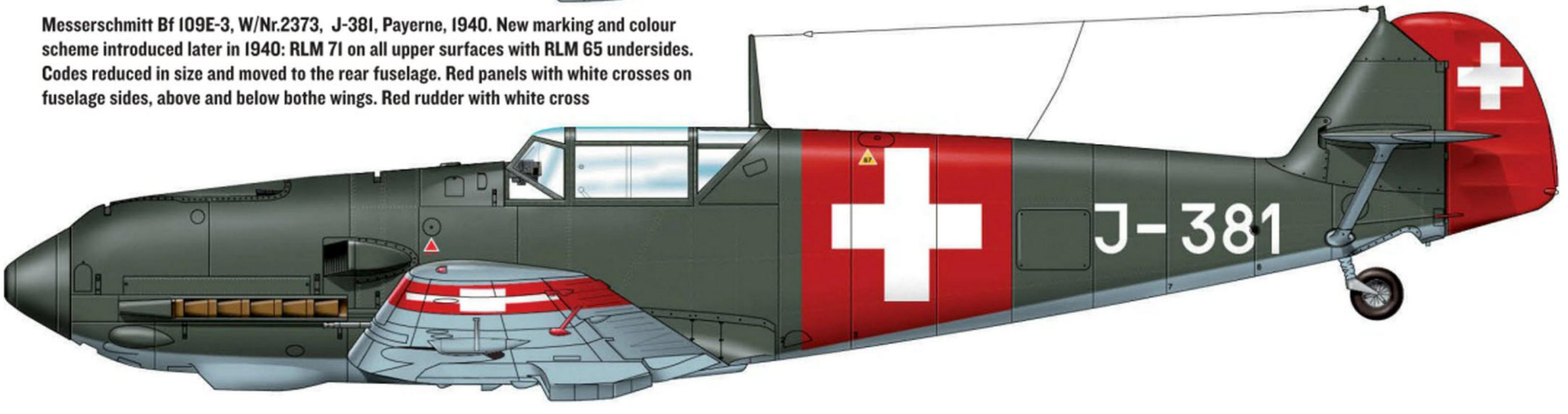

Messerschmitt Bf 109D-1, W/Nr.2302 J-307 in the full neutality markings introduced on 16 September 1944. RLM 71 upper surfaces with RLM 65 undersides and white nose section. White codes on fuselage sides. Red panel on fuselage sides and wings carrying a white cross. Red rudder with white cross superimposed



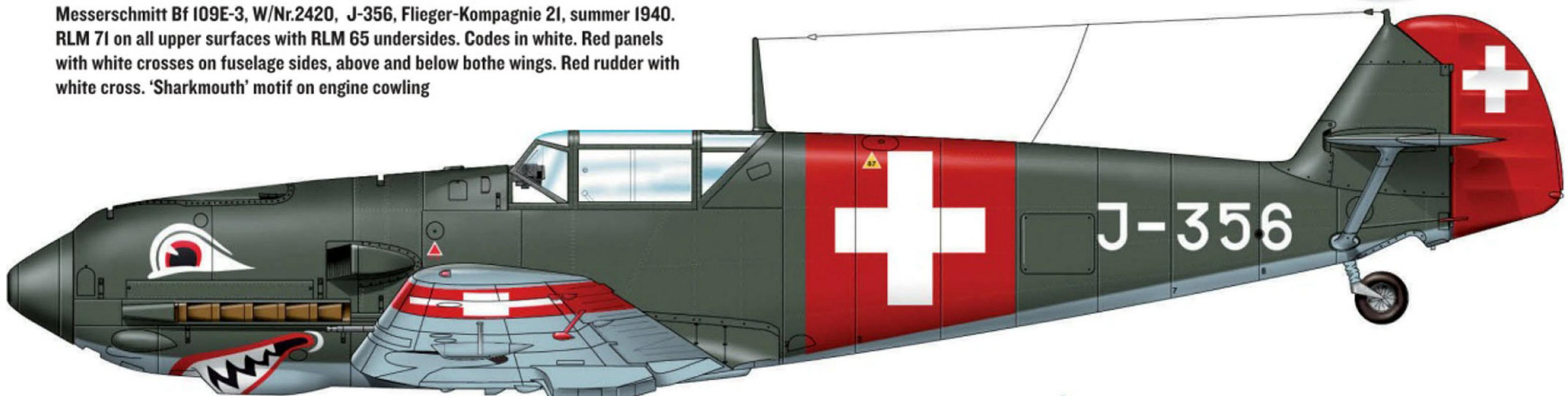

Messerschmitt Bf 109E-3, W/Nr.2191, J-333, 1939. Original delivery scheme of RLM 70/71 upper surfaces in a wavy pattern, with RLM 65 undersides. Codes are white; national markings in the form of a round red disk with a white cross in four wing positions. White cross on red panel on rudder. Note original MG25 machine guns retained




Messerschmitt Bf 109E-3, W/Nr.2373, J-381, Payerne, 1940. New marking and colour scheme introduced later in 1940: RLM 71 on all upper surfaces with RLM 65 undersides. Codes reduced in size and moved to the rear fuselage. Red panels with white crosses on fuselage sides, above and below bothe wings. Red rudder with white cross



Messerschmitt Bf 109E-3, W/Nr.2420, J-356, Flieger-Kompagnie 21, summer 1940. RLM 71 on all upper surfaces with RLM 65 undersides. Codes in white. Red panels with white crosses on fuselage sides, above and below bothe wings. Red rudder with white cross. 'Sharkmouth' motif on engine cowling

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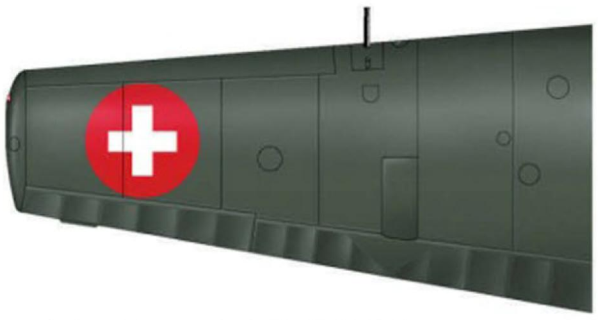
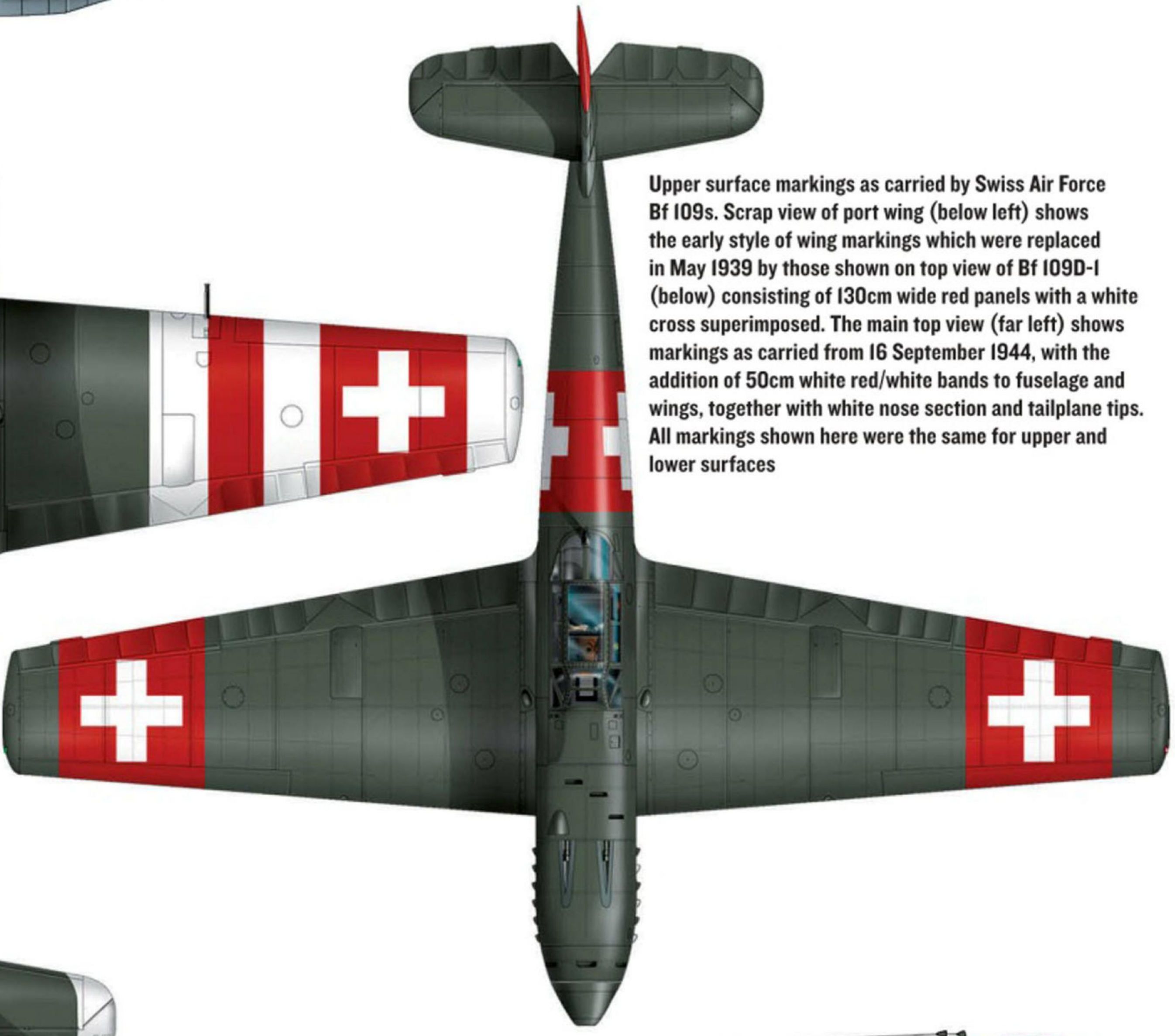
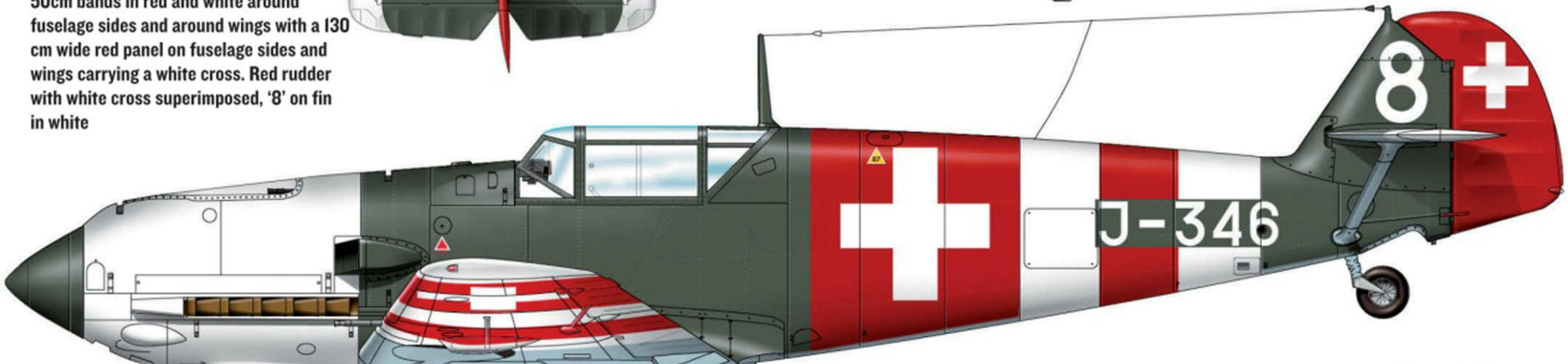


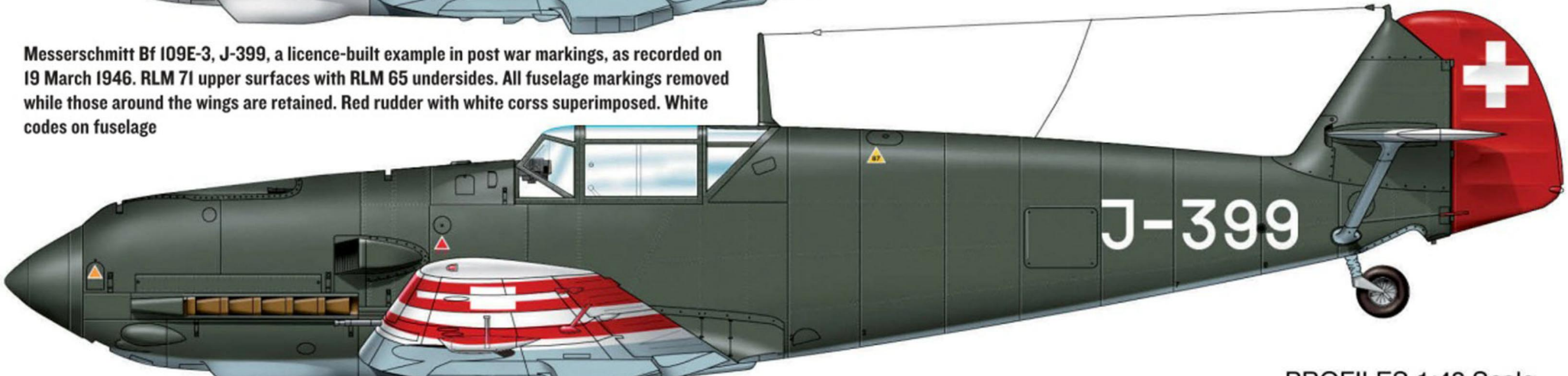


Upper surface markings as carried by Swiss Air Force Bf 109s. Scrap view of port wing (below left) shows the early style of wing markings which were replaced in May 1939 by those shown on top view of Bf 109D-1 (below) consisting of 130cm wide red panels with a white cross superimposed. The main top view (far left) shows markings as carried from 16 September 1944, with the addition of 50cm white red/white bands to fuselage and wings, together with white nose section and tailplane tips. All markings shown here were the same for upper and lower surfaces

Below: Messerschmitt Bf 109E-3, W/Nr.2403 J-346 Flieger-Kompagnie 8, Thun, November 1944. RLM 71 upper surfaces with RLM 65 undersides and white nose section. White codes on fuselage sides. 50cm bands in red and white around fuselage sides and around wings with a 130 cm wide red panel on fuselage sides and wings carrying a white cross. Red rudder with white cross superimposed, '8' on fin in white




Messerschmitt Bf 109E-3, J-399, a licence-built example in post war markings, as recorded on 19 March 1946. RLM 71 upper surfaces with RLM 65 undersides. All fuselage markings removed while those around the wings are retained. Red rudder with white corss superimposed. White codes on fuselage

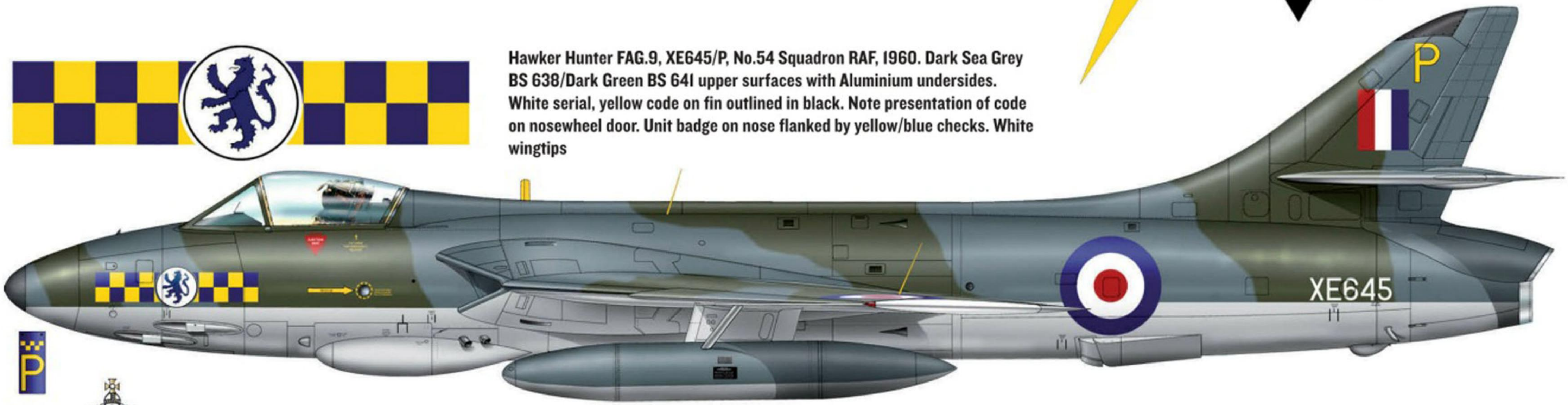



PROFILES 1:48 Scale

HAWKER

# Hunter *Part Three*

**This third and last part covering the Hawker Hunter in British service includes the remaining versions not covered in previous issues of Model Airplane International. These are the single seaters Hunter FGA.9, FR.10, GA.11 and T.7 and T.8 two-seaters. Export Hunters will be featured in future issues of this magazine.**



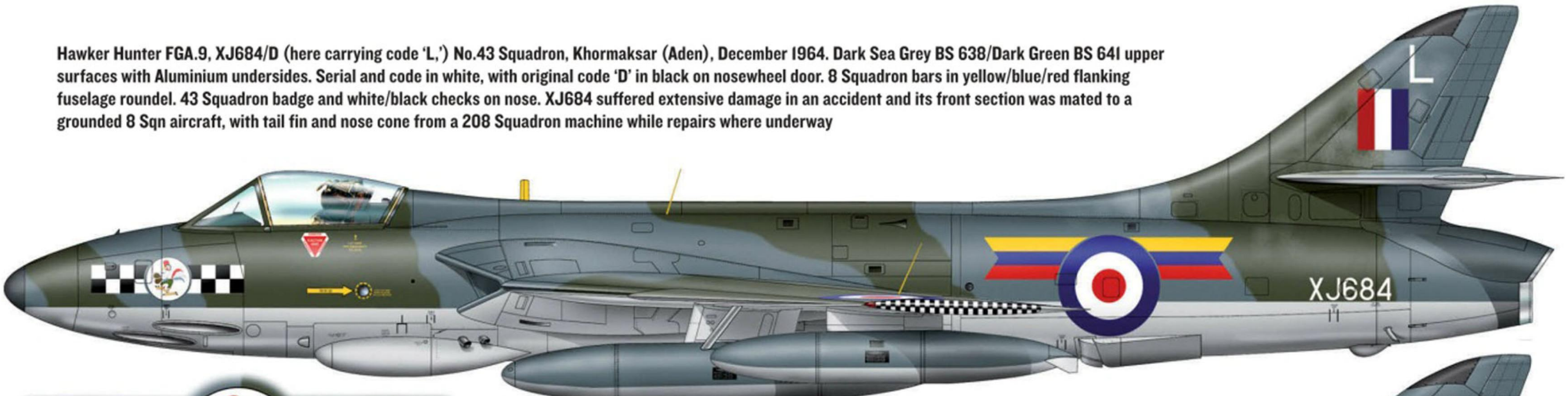

**Hawker Hunter FAG.9, XE645/P, No.54 Squadron RAF, 1960. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. White serial, yellow code on fin outlined in black. Note presentation of code on nosewheel door. Unit badge on nose flanked by yellow/blue checks. White wingtips**

**Hawker Hunter FGA.9, XE620/B, flown by Sqn Ldr Tammy Syme of No.8 Squadron RAF, detached at Embakasi, August 1963. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Code and serial in white, the latter repeated in black below the wings. Pilot's name in white above rank pennant on nose. Yellow/blue/red bands flanking fuselage round, repeated on nosewheel door which also has the unit crest superimposed**

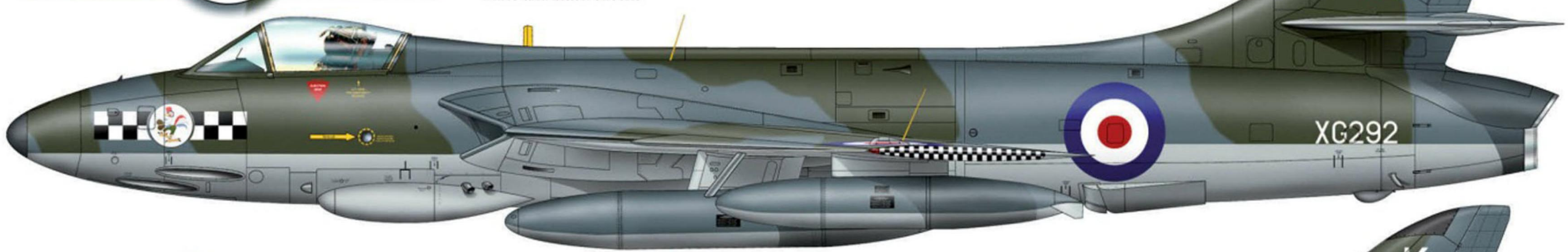
**Hawker Hunter FGA.9, XE618/D RAF, flown by Flt Lt Chris Cureton, No.8 Squadron, Khormaksar. 1964. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Code and serial in white, the latter repeated in black below the wings. Unit crest on nose with pilot's name in white above it. Yellow/blue/red bands flanking fuselage roundels, repeated on underwing tank. Together with XF421, this aircraft had received a low camouflage waistline during refurbishing at No 5 MU (RAF Kemble) the year before, but this practice was discountinued**

**Hawker Hunter FGA.9, XK151/D, No.208 Squadron RAF, as recorded at Khormaksar in March 1964. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Serials in white, repeated below the wings in black; code 'D' on fin in yellow. Unit badge on nose. XK151 was the last single-seat Hunter built for the RAF**

Hawker Hunter FGA.9, XJ684/D (here carrying code 'L,') No.43 Squadron, Khormaksar (Aden), December 1964. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Serial and code in white, with original code 'D' in black on nosewheel door. 8 Squadron bars in yellow/blue/red flanking fuselage roundel. 43 Squadron badge and white/black checks on nose. XJ684 suffered extensive damage in an accident and its front section was mated to a grounded 8 Sqn aircraft, with tail fin and nose cone from a 208 Squadron machine while repairs where underway



Hawker Hunter FGA.9, XG292/U, No.43 Squadron RAF, Khormaksar (Aden), 1965. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White serial and code, the latter repeated also in white on a red nosewheel door. Unit badge on nose, flanked by white and black checks



Hawker Hunter FGA.9, XJ695/K, No.20 Squadron RAF, Tengah (Singapore), 1965. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides; note unusual 'mirror' image camouflage pattern on upper surfaces. Serial and code in white, the latter repeated on a red nosewheel door. Unit badge on nose flanked by blue bars with red/white/green horizontal stripes superimposed

Hawker Hunter FGA.9, XE550/X, No.8 and 43 Squadrons RAF, Tactical Wing, Khormaksar, early1966. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Code and serial in white, the latter repeated in black below the wings; code also repeated in black on nosewheel door. Nos.8 and 43 Squadron colour bars flanking fuselage roundel with No 8's presented forward on both sides

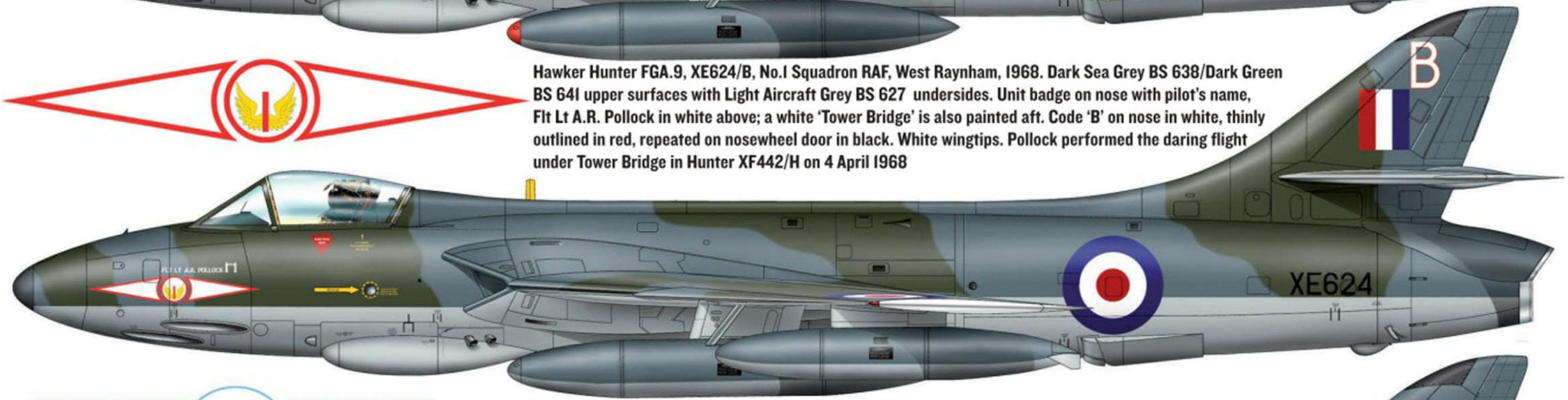
Hawker Hunter FGA.9, XJ643/D, No.28 Squadron, Kai Tak (Hong Kong), early 1967. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White serial and code with 'D' repeated in black on nosewheel door. White wingtips. Unit badge on nose flanked by black bars edged in yellow

Hawker Hunter FGA.9, XF414/E, No.20 Squadron RAF, Tengah (Singapore), 1967. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White codes and serial. Yellow nose exercise marking. Unit badge on nose flanked by blue bars with red/white/green horizontal stripes superimposed

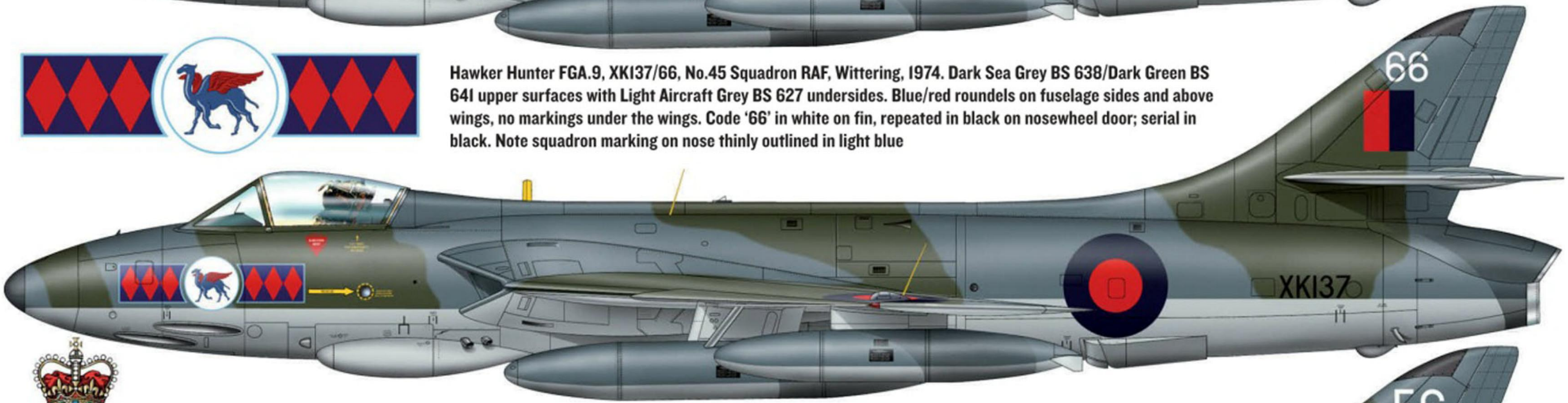
Hawker Hunter FGA.9, XF414/E, No.20 Squadron RAF, Tengah (Singapore), 1967. Dark Sea Grey BS 638/ Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White codes and serial. Yellow nose exercise marking. Unit badge on nose flanked by blue bars with red/white/green horizontal stripes superimposed

Hawker Hunter FGA.9, XJ636/F, No.208 Squadron RAF, Khormaksar (Aden), 1968. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial, yellow code on fin. Light blue/yellow bars flanking fuselage roundel, outlined in black (or possibly dark blue)

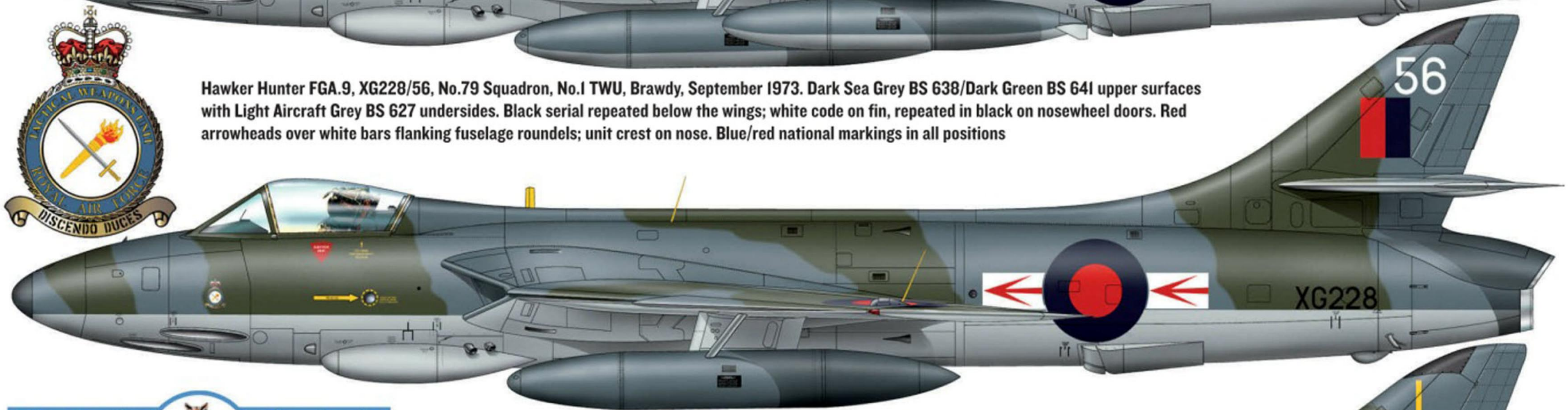
Hawker Hunter FGA.9, XE624/B, No.1 Squadron RAF, West Raynham, 1968. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Unit badge on nose with pilot's name, Flt Lt A.R. Pollock in white above; a white 'Tower Bridge' is also painted aft. Code 'B' on nose in white, thinly outlined in red, repeated on nosewheel door in black. White wingtips. Pollock performed the daring flight under Tower Bridge in Hunter XF442/H on 4 April 1968




Hawker Hunter FGA.9, XK137/66, No.45 Squadron RAF, Wittering, 1974. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Blue/red roundels on fuselage sides and above wings, no markings under the wings. Code '66' in white on fin, repeated in black on nosewheel door; serial in black. Note squadron marking on nose thinly outlined in light blue




Hawker Hunter FGA.9, XG228/56, No.79 Squadron, No.1 TWU, Brawdy, September 1973. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial repeated below the wings; white code on fin, repeated in black on nosewheel doors. Red arrowheads over white bars flanking fuselage roundels; unit crest on nose. Blue/red national markings in all positions




Hawker Hunter FGA.9, XF419/L, No.58 Squadron, RAF Wittering, 1974. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black codes and Yellow code 'L' on fin, the latter repeated in black on nosewheel door. Blue/Red national markings. Unit badge over a blue bar with green diamonds, the whole outlined in light blue

Hawker Hunter FGA 9, XF430/N, Harrier Operational Conversion Unit, Wittering, summer 1970. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides, Black serial, yellow code on fin, with 'N' repeated in black on nosewheel door. Harrier OCU marking on nose. White wingtips

Below: Typical upper surface camouflage pattern in Dark Sea Grey BS 638/ Dark Green BS 641. Position of early blue/white/red roundels are shown in the main view while the later blue/red roundels are shown in the scrap view below left

Below: Positionand size of serial in black below the wings, together with the position and size of the blue/ white/red roundels. The later blue/red roundels, when carried, were of the same size and position

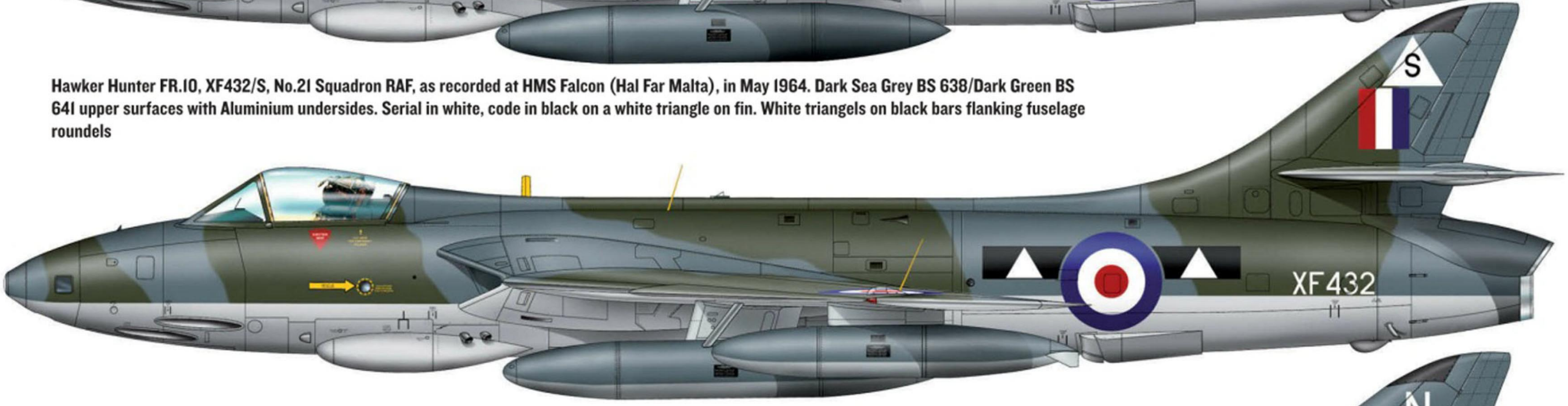
Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

Hawker Hunter FGA.9, XF431/62, carrying the combined markings of Nos.45 and 58 Squadrons, RAF Wittering 1975. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serial, white code on fin. Unit markings of both squadrons, together with their green/ blue and red/dark blue checks on either side, the whole thinly outlined in light blue. Blue/Red national markings in all standard positions

Hawker Hunter FR.10, JX633/K, No.4 Squadron RAF, Gutersloh (Germany), 1964. Dark Sea Grey/Dark Green upper surfaces with Aluminium undersides. Roundels in six positions. Code and serials in white; serial repeated in black under wings and code repeated in white on red nosewheel door. Black/red bars with yellow lightning flash flanking fuselage roundels; unit badge on nose

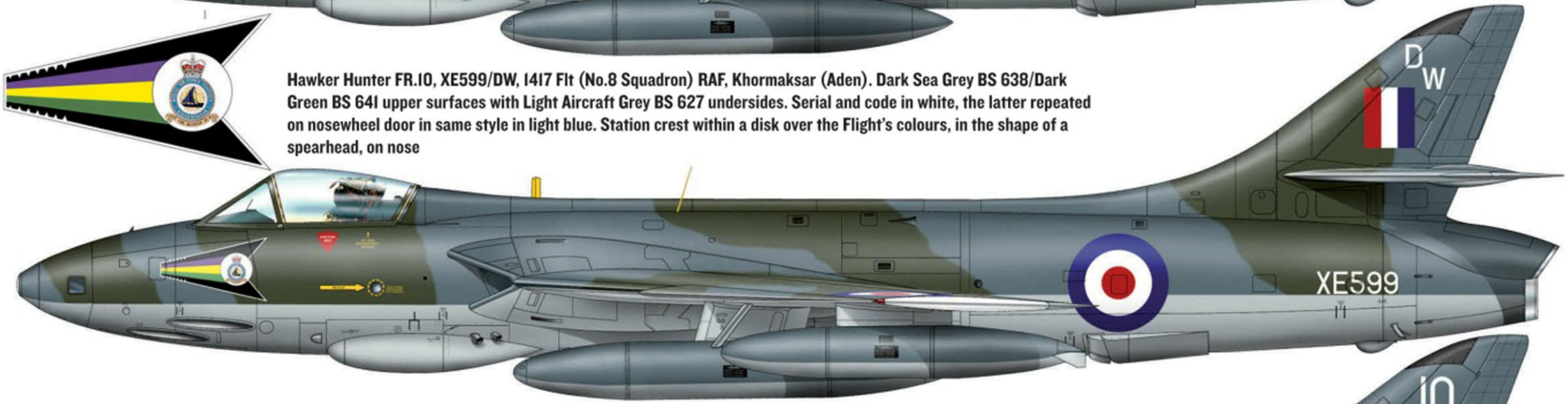
Hawker Hunter FR.10, XF426/12, No.229 OCU RAF, Chivenor, 1965. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. White spine. Black serial, white code on fin

Hawker Hunter FR.10, XF432/S, No.21 Squadron RAF, as recorded at HMS Falcon (Hal Far Malta), in May 1964. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Aluminium undersides. Serial in white, code in black on a white triangle on fin. White triangels on black bars flanking fuselage roundels




Hawker Hunter FR.10, WW596/N, No.2 Squadron, RAF Gutersloh (Germany), 1966. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black bars with a white rectangle flanking fuselage roundels. Codes and serial in white

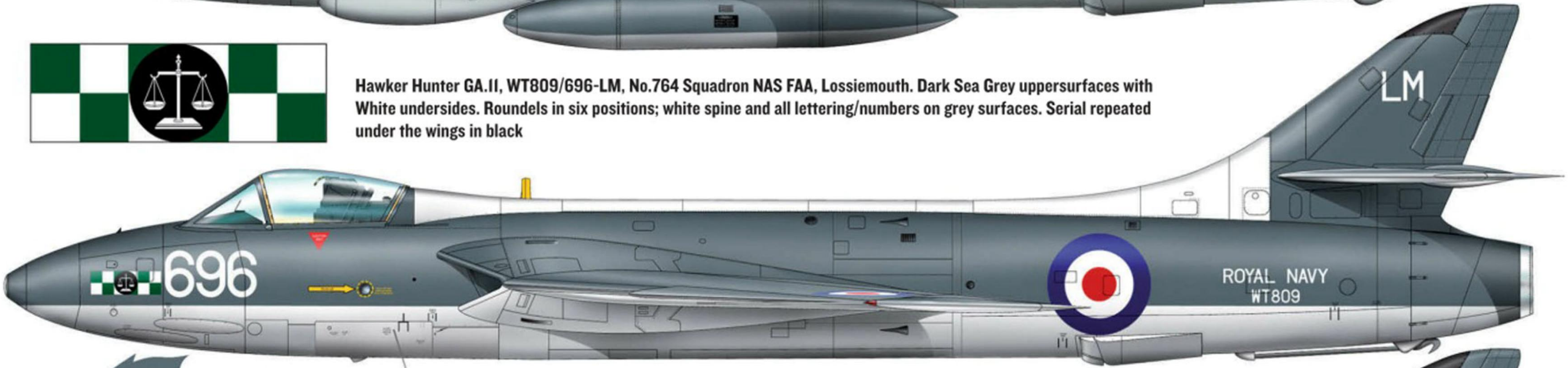
Hawker Hunter FR.10, XE599/DW, 1417 Flt (No.8 Squadron) RAF, Khormaksar (Aden). Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Serial and code in white, the latter repeated on nosewheel door in same style in light blue. Station crest within a disk over the Flight's colours, in the shape of a spearhead, on nose



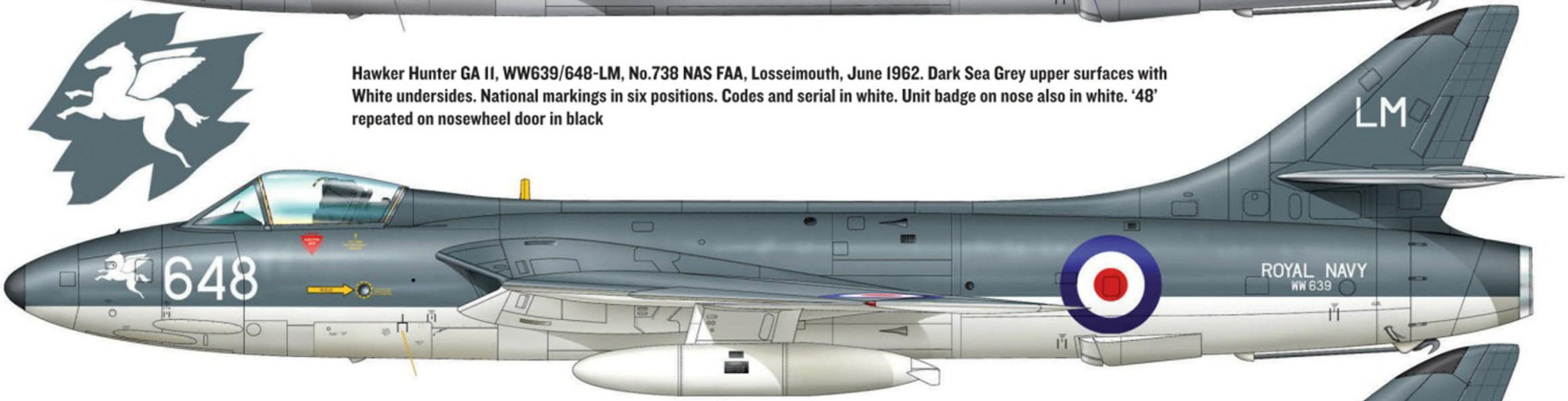

Hawker Hunter FR.10, XG618/10, No.79 Squadron-229 OCU RAF, 1971. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. Black serials, white code '10', repeated in black on nosewheel door. Red arrows on white bars flanking fuselage roundels

Hawker Hunter FR.10, WW593/H, No.14 Squadron RAF, Gütersloh (Germany), 1972. Dark Sea Grey BS 638/Dark Green BS 641 upper surfaces with Light Aircraft Grey BS 627 undersides. White serial, white code 'H' over a black disk on fin, repeated in black on nosewheel door. Blue diamonds on white bars flanking fuselage roundels

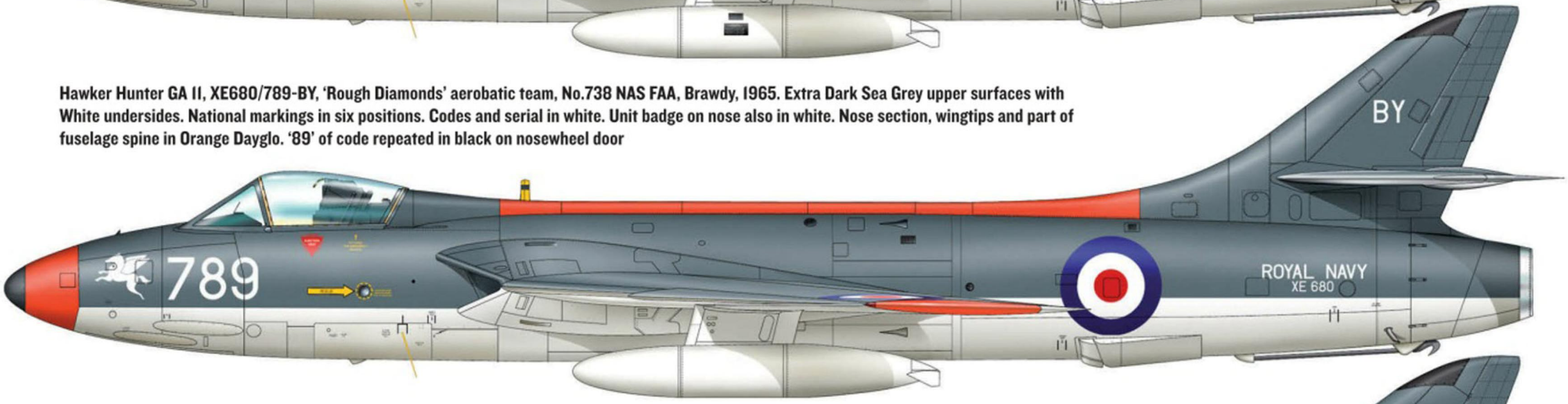
Hawker Hunter GA.11, WT809/696-LM, No.764 Squadron NAS FAA, Lossiemouth. Dark Sea Grey uppersurfaces with White undersides. Roundels in six positions; white spine and all lettering/numbers on grey surfaces. Serial repeated under the wings in black




Hawker Hunter GA 11, WW639/648-LM, No.738 NAS FAA, Losseimouth, June 1962. Dark Sea Grey upper surfaces with White undersides. National markings in six positions. Codes and serial in white. Unit badge on nose also in white. '48' repeated on nosewheel door in black



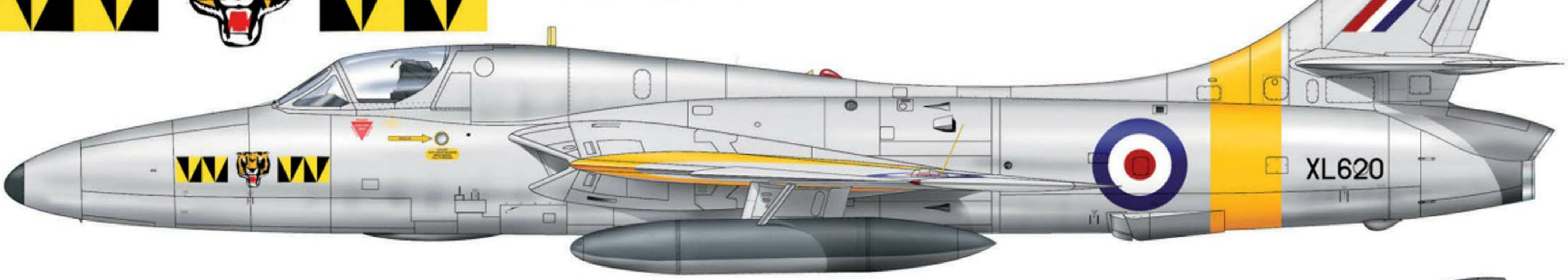

Hawker Hunter GA 11, XE680/789-BY, 'Rough Diamonds' aerobatic team, No.738 NAS FAA, Brawdy, 1965. Extra Dark Sea Grey upper surfaces with White undersides. National markings in six positions. Codes and serial in white. Unit badge on nose also in white. Nose section, wingtips and part of fuselage spine in Orange Dayglo. '89' of code repeated in black on nosewheel door




Hawker Hunter GA.11, XE682/835-VL, Blue Herons aerobatic team, FRADU, Yeovilton. Dark Sea Grey upper surfaces with white undersides. All lettering in white except underwing serials which are in black

Hawker Hunter GA 11, XE685/861-VL, Fleet Requirements Unit FAA, Yeovilton, 1986. Dark Sea Grey overall with Blue/Red national markings in six positions. All numbers and lettering in black with '61' repeated on nosewheel door

Hunter T.7, XL620/Z, No.74 Squadron, 1961. High Speed Silver overall with Yellow bands around fuselage and wings; black serial and code. Blue/White/Red national markings; yellow/black bars flanking unit badge on nose



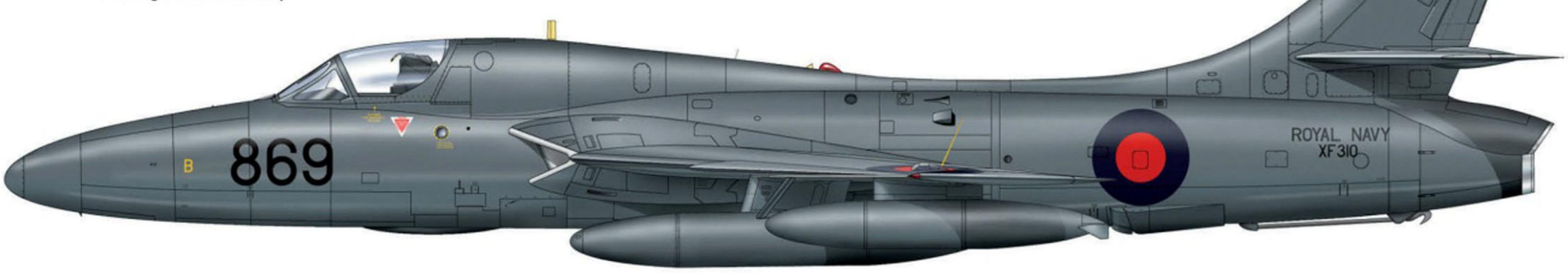
Hunter T.7, WV369/T, No.28 Squadron, Kai Tak (Hong Kong), mid-1960s. Gloss Dark Sea Grey and Gloss Dark Green upper surfaces with High Speed Silver undersides; Blue/White/Red national markings. White wingtips, serial and code; yellow/black bars flanking unit marking on nose

Hunter T.7, XL613/CU, No.237 Operational Conversion Unit, 1985. Dark Sea Grey/Dark Green upper surfaces with Light Aircraft Grey undersides; Blue/Red national markings. Black serial, black code on fin thickly outlined in white; unit badge on nose

Hunter T.7, WV318/M, No.208 Squadron, 1986. Dark Sea Grey/Dark Green upper surfaces with Light Aircraft Grey undersides; Blue/Red national markings. Black serial, light blue code on fin; yellow/blue arrowhead on nose, unit markings on fin

Hawker Hunter T.8C, WT745/745-VL, FRADTU, Yeovilton, 1970. Aluminium overall with bright red trim to underside of nose, above and below wings and tailplane, and spine. All lettering and anti-dazzle panel in black. RAF Hunter F.6 style underwing tank

Hawker Hunter T.7, XF310/VL-2-B, Fleet Requirements and Air Directions Unit (FRADU), Yelovilton, late 1980s. Dark Sea Grey overall with all codes and serials in black, except 'B' on nose in yellow and '2' on fin which is in white. Standard national markings in Blue/Red only



Westland Lynx HAS Mk 2, XZ244/AD-743, HMS Ardent, FAA,1978. Oxford Blue BS.381C/105 overall with black lettering; 'HMS Ardent on nose in white. Blue/white/red roundels

Westland Lynx SH-14C, 276/K, Royal Netherlands Naval Air Service, 1991. Extra Dark Sea Grey KM.106 upper surfaces with Sky KM.501 undersides; Yellow lower tail area, black anti-dazzle panel on nose. Code '276' is repeated in white above tailplane and in black underneath

Westland Lynx Mk 88, 83+07, MFG-3, Federal German Navy, 1992. Basalt Grey RAM 7012 upper surfaces with Light Grey RAL 7035 undersides; codes in black, outlined in white. Old German Navy marking on nose

Westland Lynx Mk 95, 19204, Portuguese Navy, 2000. Light grey overall with all lettering in white, except for warning markings at base of fin which are in red. National markings in red and white, green/red flag on fin. Navy 'anchor' marking in black on a white disk on nose

Westland Lynx HAS.3S (ICE), XZ238/633, No.702 NAS FAA, 2012. Still retaining its scheme from HMS Endurance of Medium Sea Grey BS.381C/637 overall with Dayglo Red nose and side doors. All lettering in white except for the rotor danger warning which is red. Pale Blue/Pale Red roundels. Royal Navy logo and Penguin motif on side doors

1/72 SCALE
WAR BIRD COLLECTION

FALKLANDSWAR
Wessex HAS.3:
the English way
against submarine
ITALERI
Wessex HAS.3
1:48 scale
2732 Item code number
NEW
MOULDS
ROYAL NAVY

# ANTI-CAMOUFLAGE 4

## B.P.DEFIANT TARGET TUGS

Above: Boulton-Paul Defiant TT Mk I, AA628, NW-V, No.286 Squadron, Exeter, 1944. Ocean Grey and Dark Green uppersurfaces; Yellow and Night undersides. Night spinner, Medium Sea Grey codes.

Below: Typical pattern applied to upper surfaces of Defiants with even-ending serials; a mirror image of this pattern was applied to Defiants with odd-ending serials

Scrap view of wings below illustrates position and size of markings applied to DR948 (bottom profile, opposite page). Note mirror image of pattern applied to AA628, even though this Defiant's serial number ends with an even number. The 'A' and 'B' scheme was not a hard and fast rule

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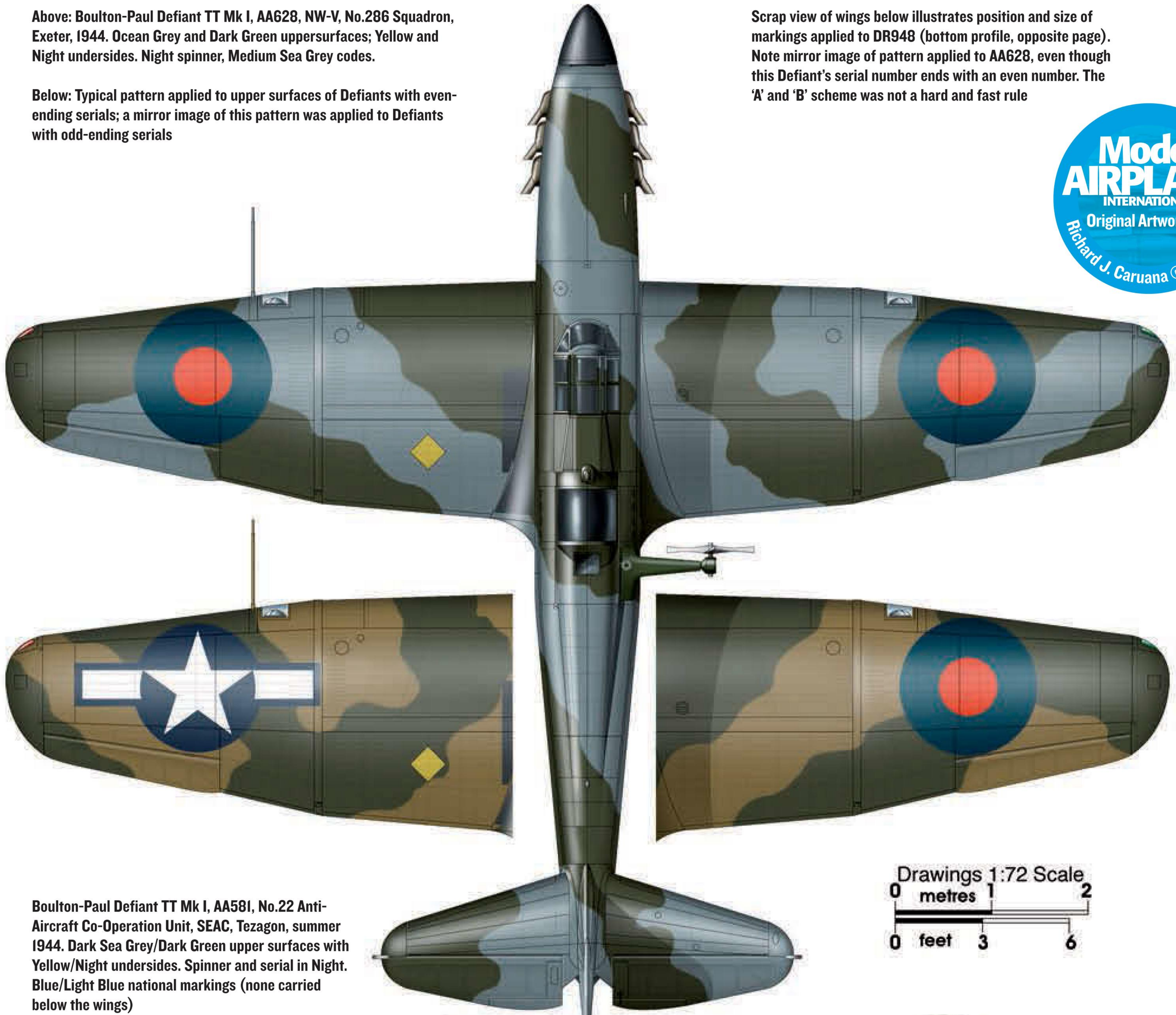
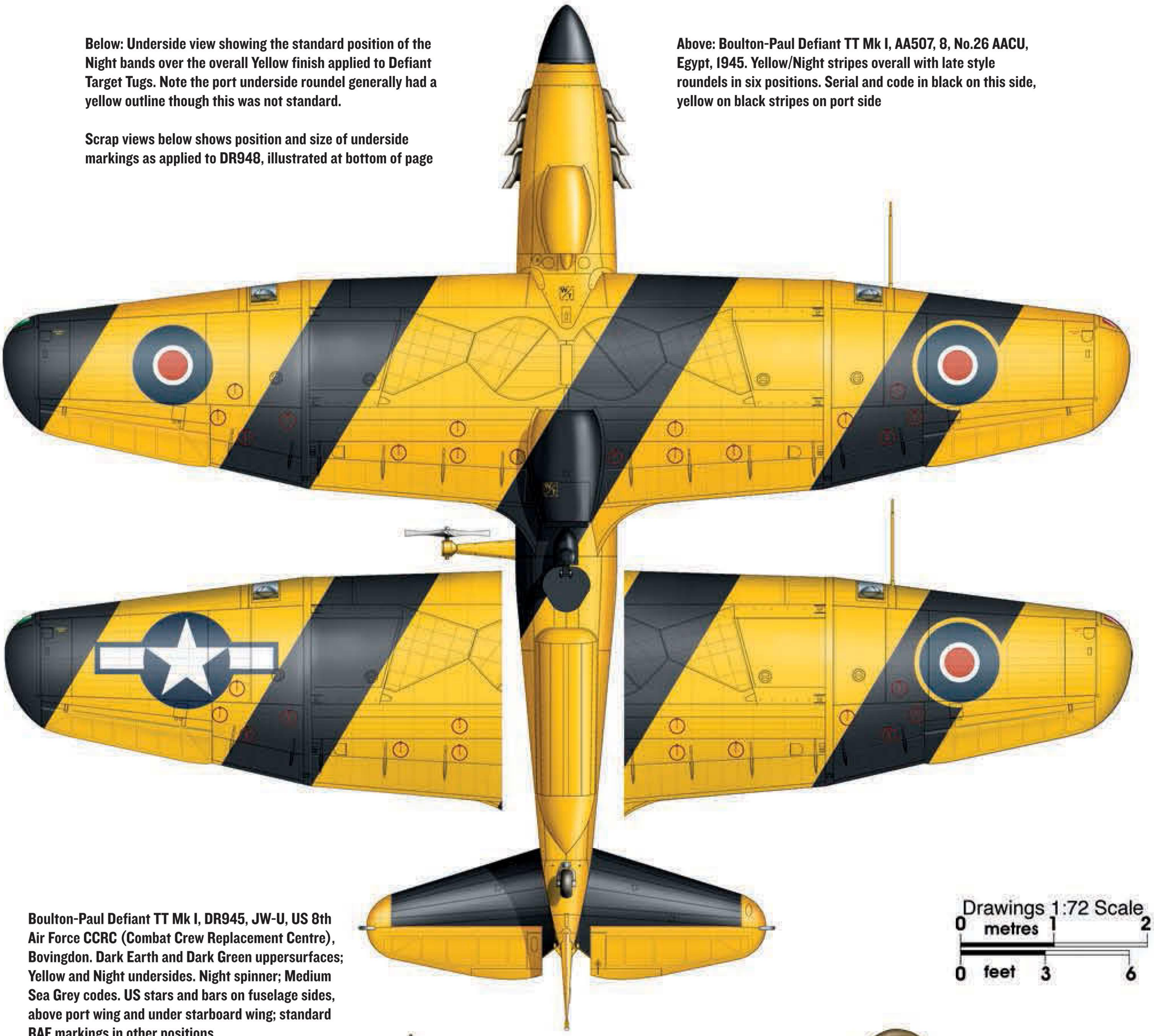



Boulton-Paul Defiant TT Mk I, AA581, No.22 Anti-Aircraft Co-Operation Unit, SEAC, Tezagon, summer 1944. Dark Sea Grey/Dark Green upper surfaces with Yellow/Night undersides. Spinner and serial in Night. Blue/Light Blue national markings (none carried below the wings)

Below: Underside view showing the standard position of the Night bands over the overall Yellow finish applied to Defiant Target Tugs. Note the port underside roundel generally had a yellow outline though this was not standard.

Scrap views below shows position and size of underside markings as applied to DR948, illustrated at bottom of page

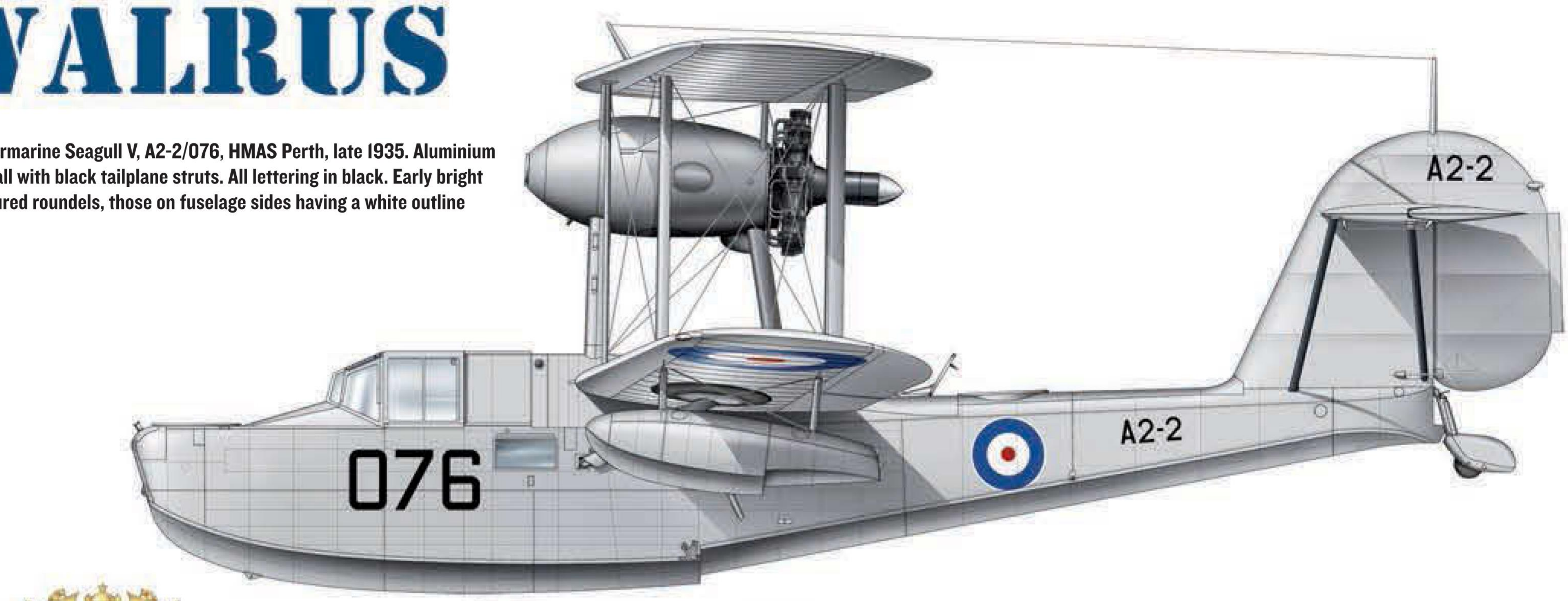
Above: Boulton-Paul Defiant TT Mk I, AA507, 8, No.26 AACU, Egypt, 1945. Yellow/Night stripes overall with late style roundels in six positions. Serial and code in black on this side, yellow on black stripes on port side



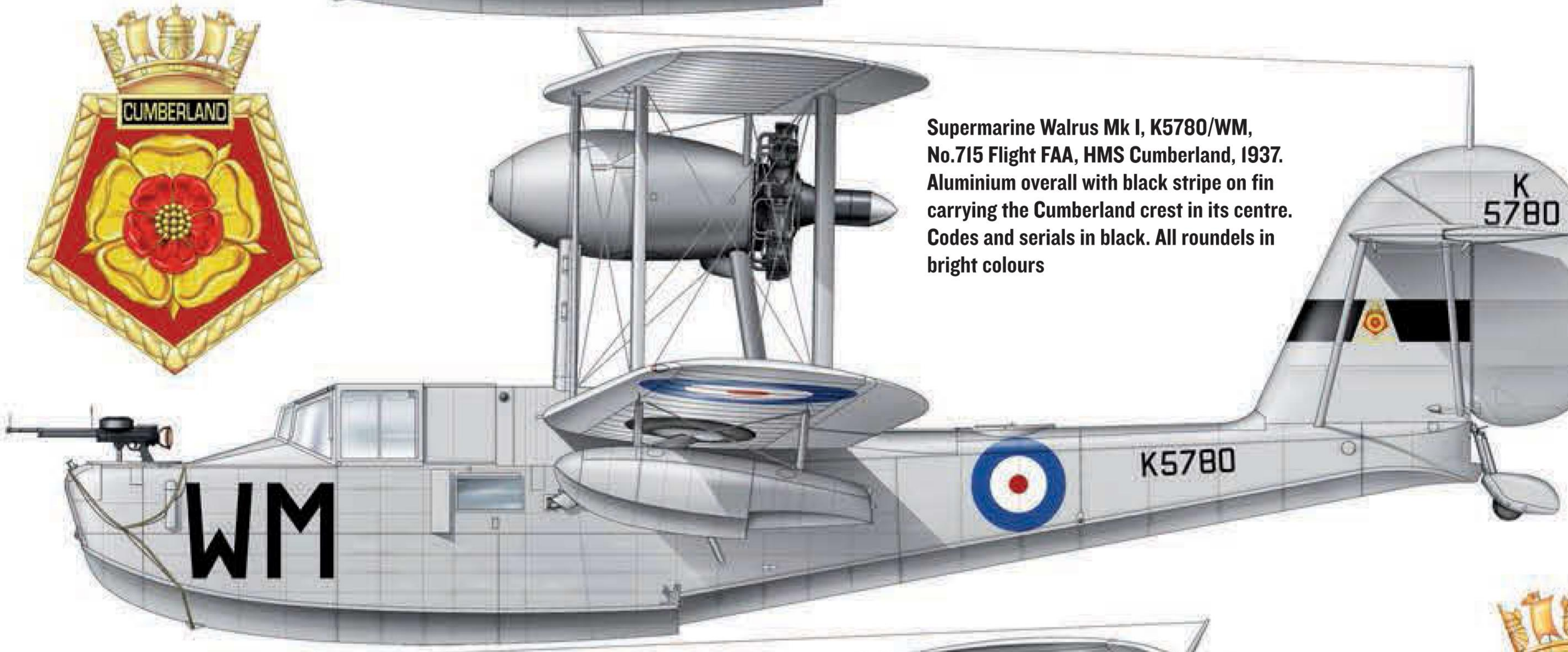

Boulton-Paul Defiant TT Mk I, DR945, JW-U, US 8th Air Force CCRC (Combat Crew Replacement Centre), Bovingdon. Dark Earth and Dark Green uppersurfaces; Yellow and Night undersides. Night spinner; Medium Sea Grey codes. US stars and bars on fuselage sides, above port wing and under starboard wing; standard RAF markings in other positions

# SUPERMARINE WALRUS

Supermarine Seagull V, A2-2/076, HMAS Perth, late 1935. Aluminium overall with black tailplane struts. All lettering in black. Early bright coloured roundels, those on fuselage sides having a white outline

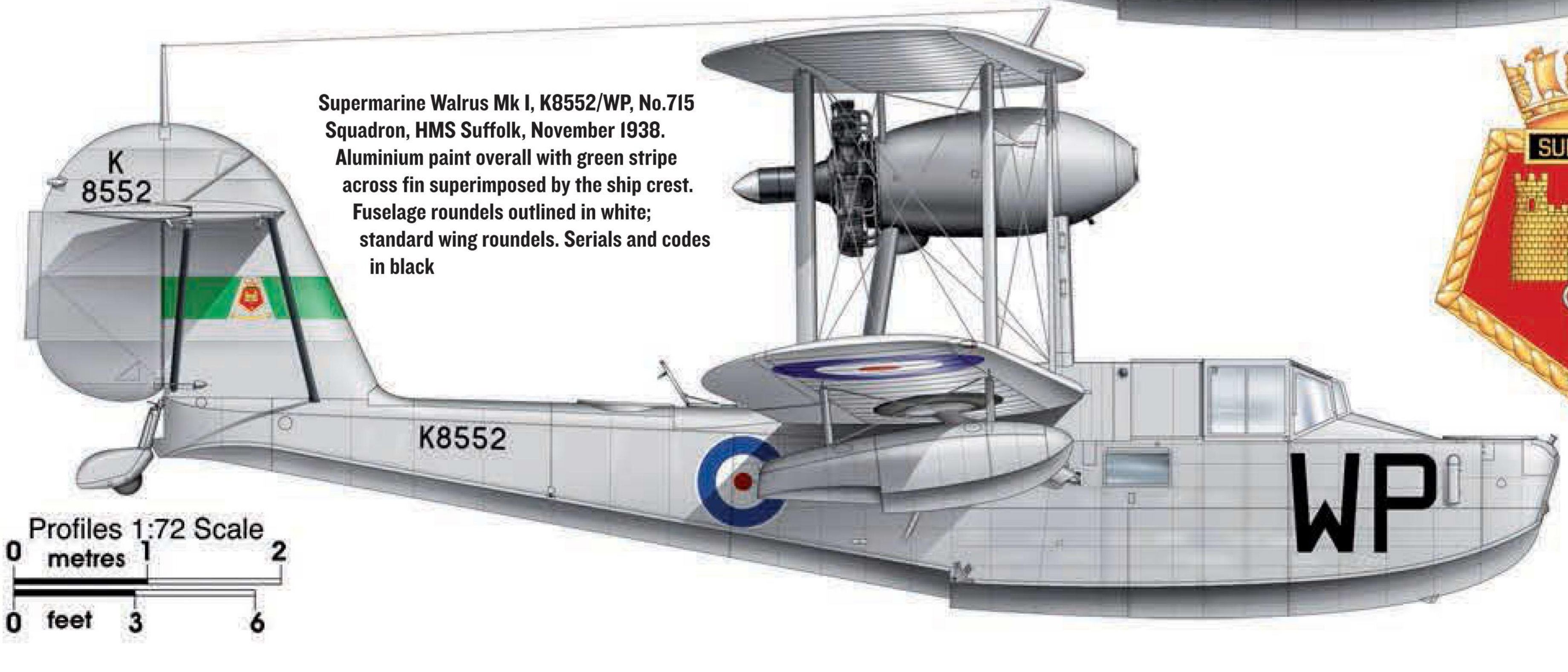


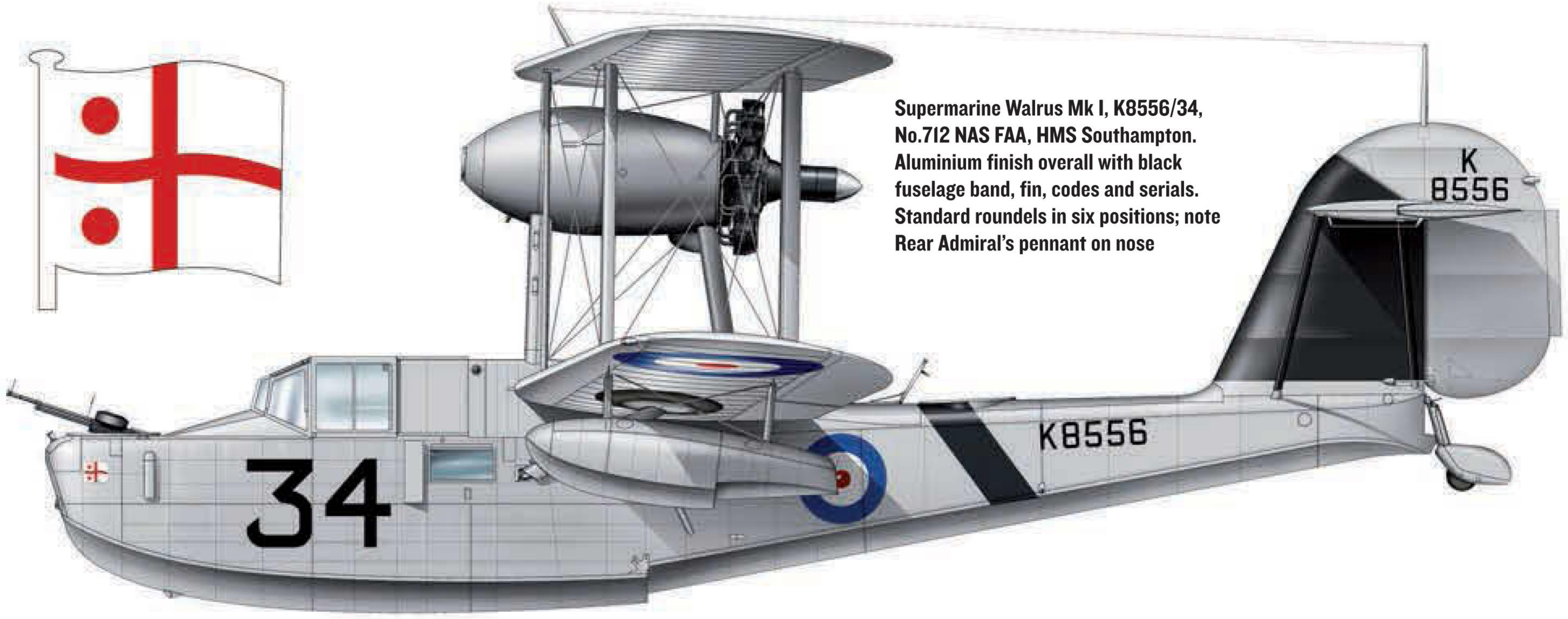

Supermarine Walrus Mk I, K5780/WM, No.715 Flight FAA, HMS Cumberland, 1937. Aluminium overall with black stripe on fin carrying the Cumberland crest in its centre. Codes and serials in black. All roundels in bright colours



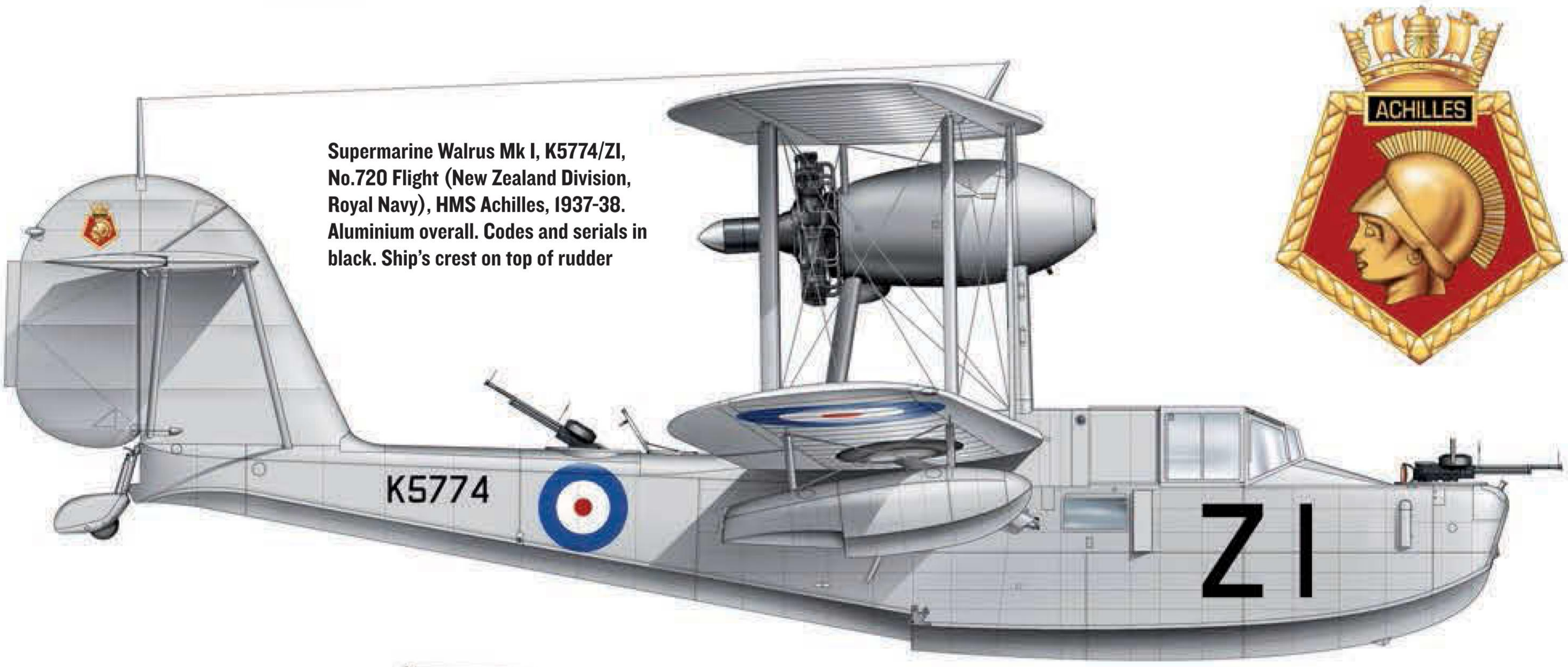

Supermarine Walrus Mk I, K8541, No.720 Flight FAA, HMS Leander, 1937. Aluminium overall. Serials ad tailplane struts in black. Standard national markings. Ship's crest on the nose

Supermarine Walrus Mk I, K8552/WP, No.715 Squadron, HMS Suffolk, November 1938. Aluminium paint overall with green stripe across fin superimposed by the ship crest. Fuselage roundels outlined in white; standard wing roundels. Serials and codes in black

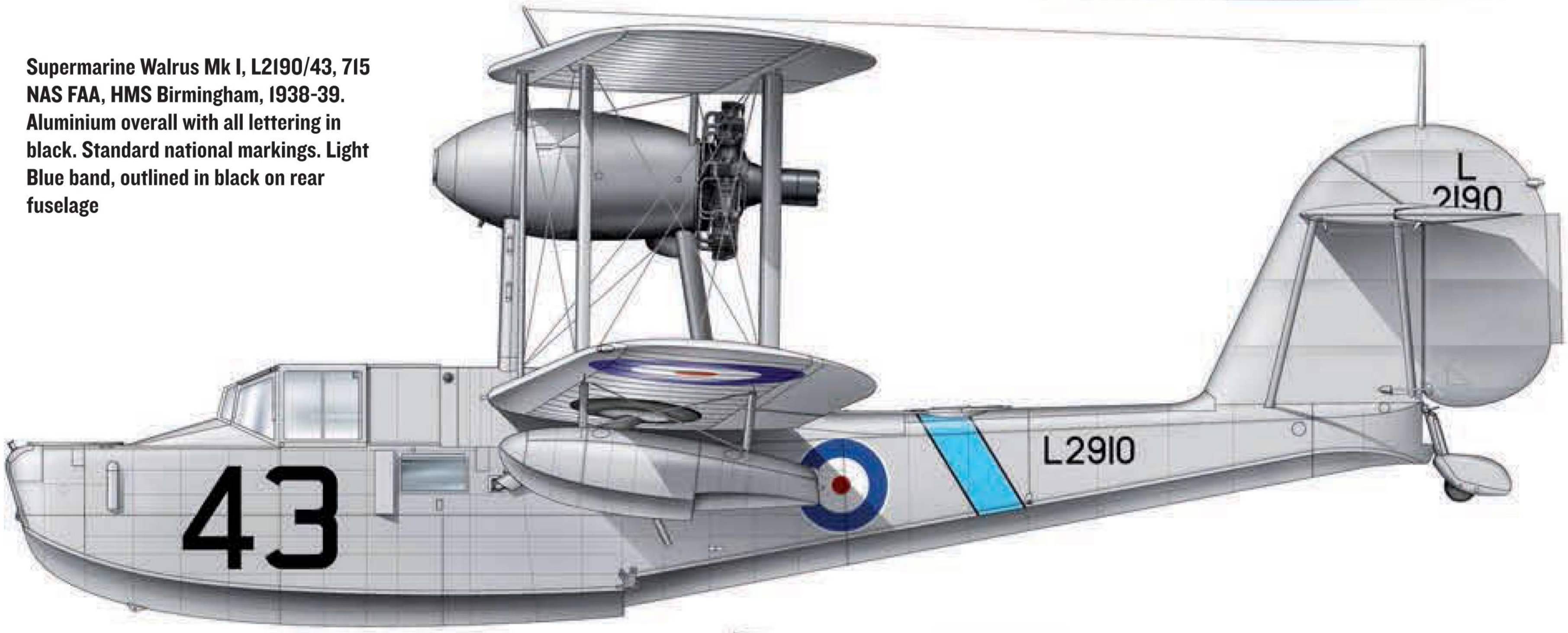




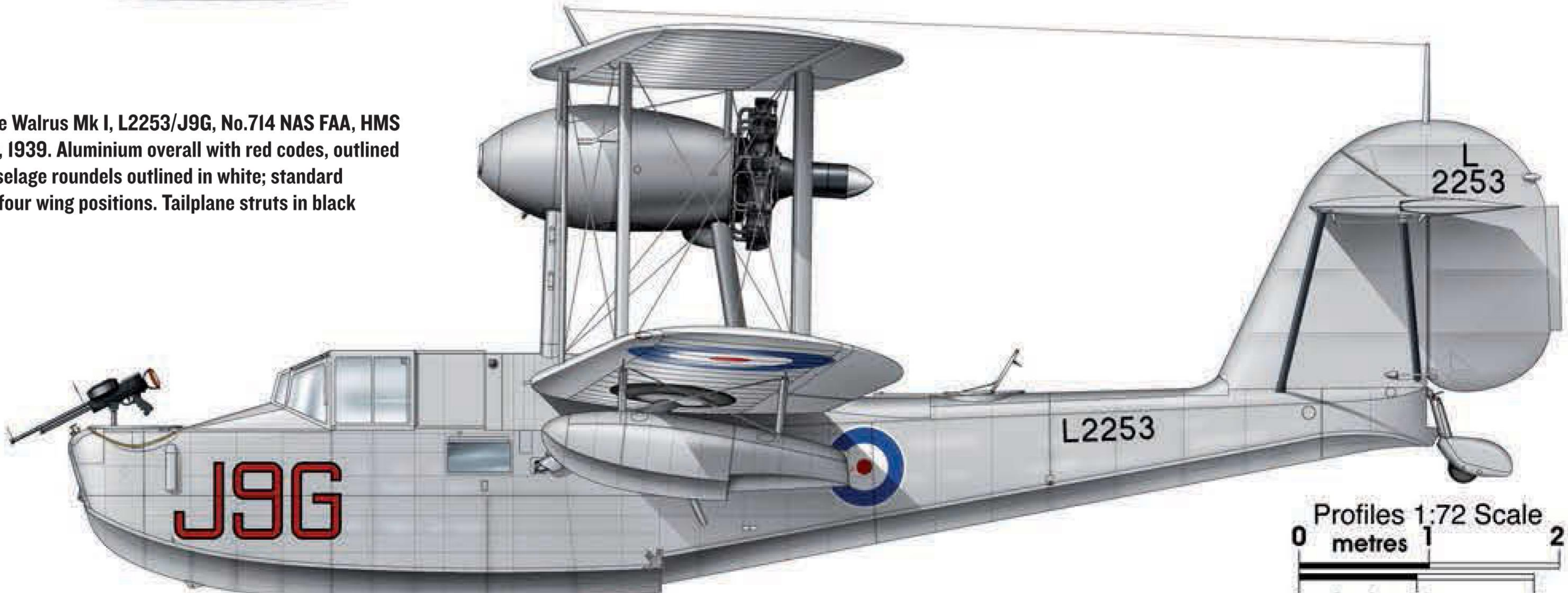

Supermarine Walrus Mk I, K8556/34, No.712 NAS FAA, HMS Southampton. Aluminium finish overall with black fuselage band, fin, codes and serials. Standard roundels in six positions; note Rear Admiral's pennant on nose



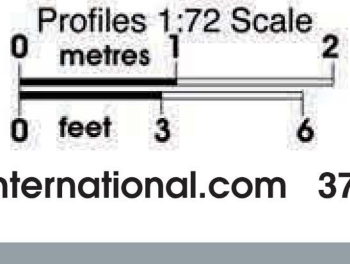

Supermarine Walrus Mk I, K5774/Z1, No.720 Flight (New Zealand Division, Royal Navy), HMS Achilles, 1937-38. Aluminium overall. Codes and serials in black. Ship's crest on top of rudder

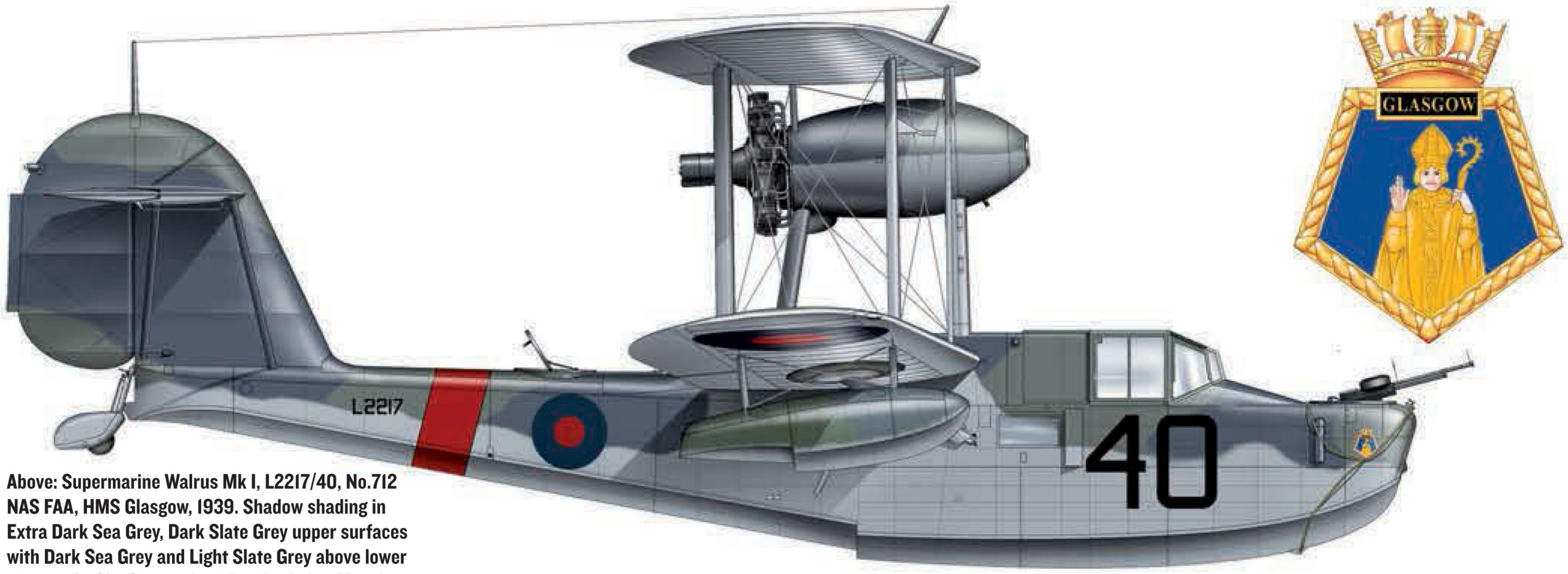



Supermarine Walrus Mk I, L2190/43, 715 NAS FAA, HMS Birmingham, 1938-39. Aluminium overall with all lettering in black. Standard national markings. Light Blue band, outlined in black on rear fuselage



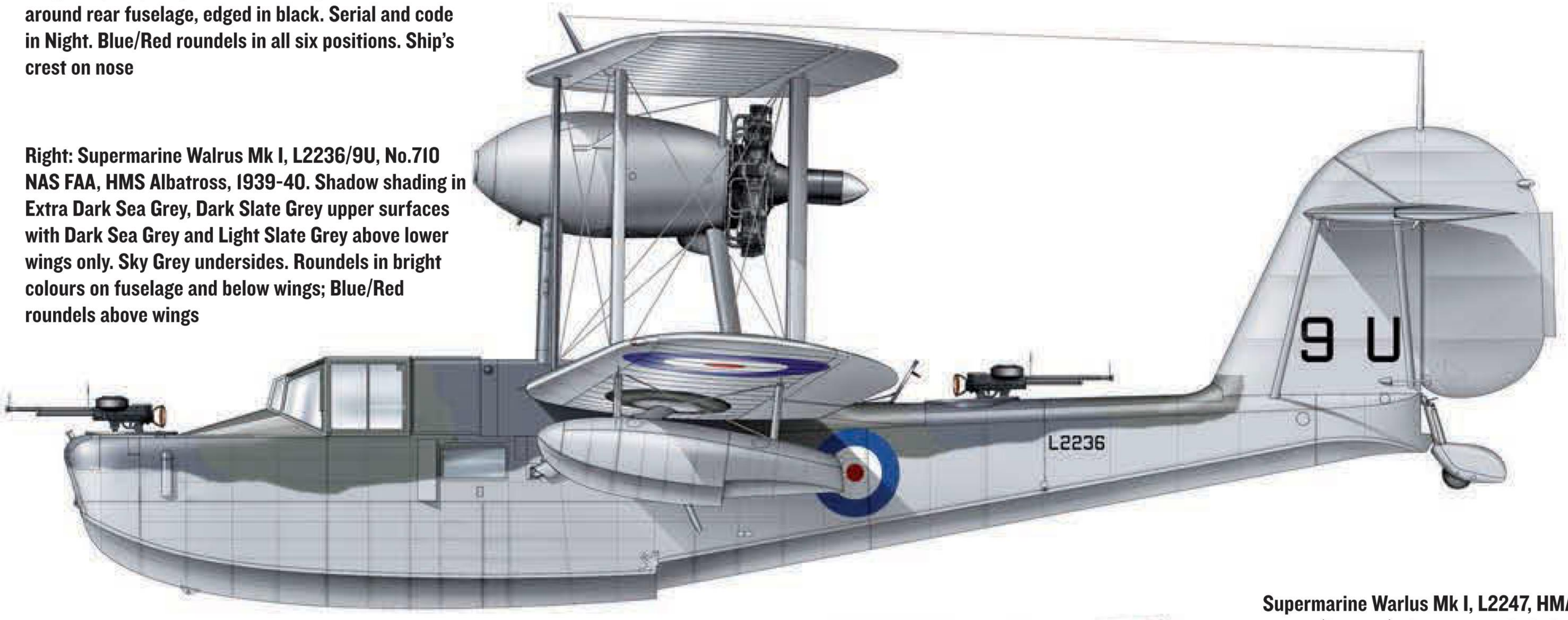

Supermarine Walrus Mk I, L2253/J9G, No.714 NAS FAA, HMS Manchester, 1939. Aluminium overall with red codes, outlined in black. Fuselage roundels outlined in white; standard roundels in four wing positions. Tailplane struts in black



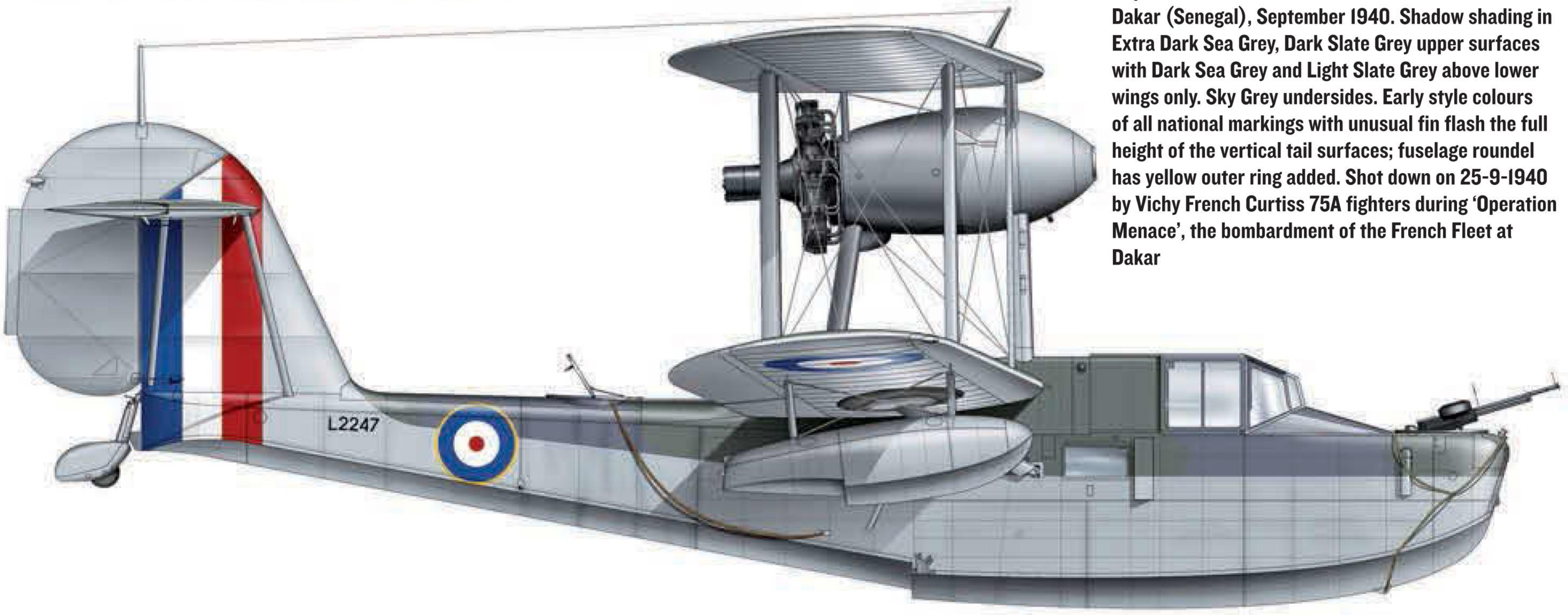



Above: Supermarine Walrus Mk I, L2217/40, No.712 NAS FAA, HMS Glasgow, 1939. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. Angled red band around rear fuselage, edged in black. Serial and code in Night. Blue/Red roundels in all six positions. Ship's crest on nose

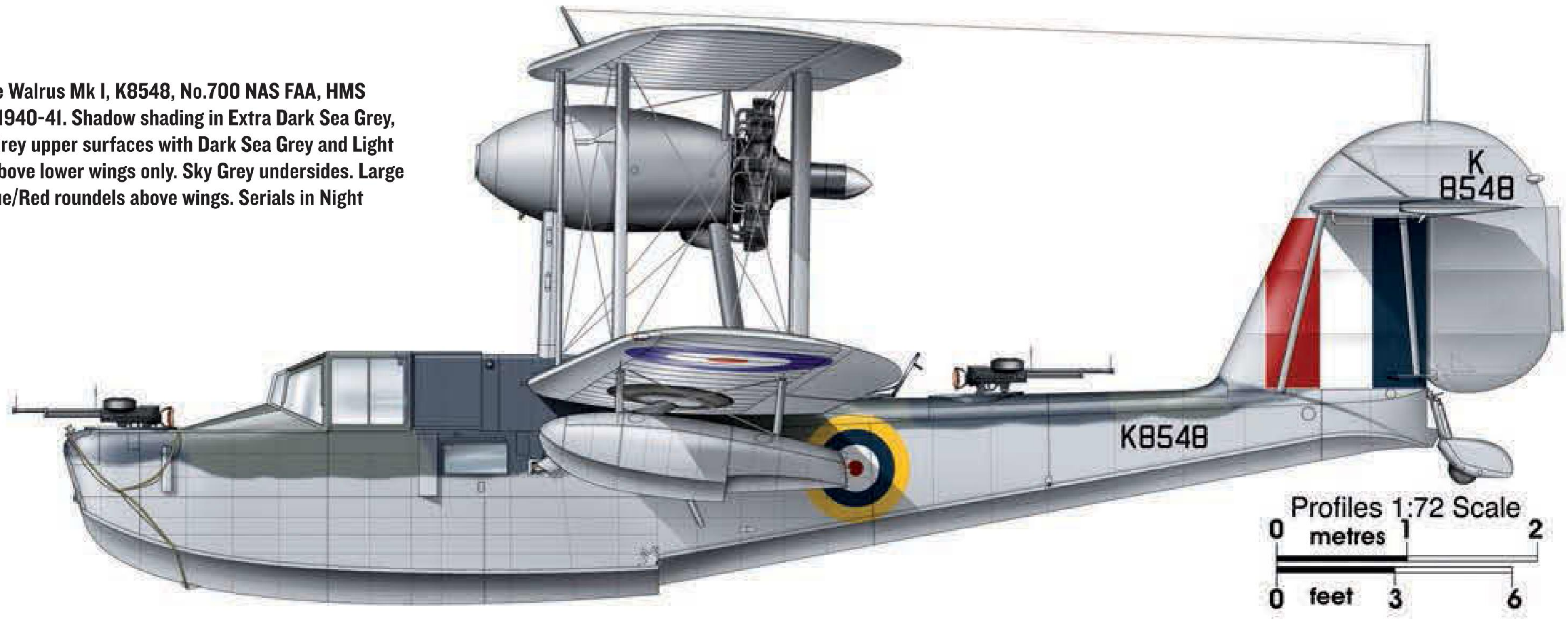
Right: Supermarine Walrus Mk I, L2236/9U, No.710 NAS FAA, HMS Albatross, 1939-40. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. Roundels in bright colours on fuselage and below wings; Blue/Red roundels above wings



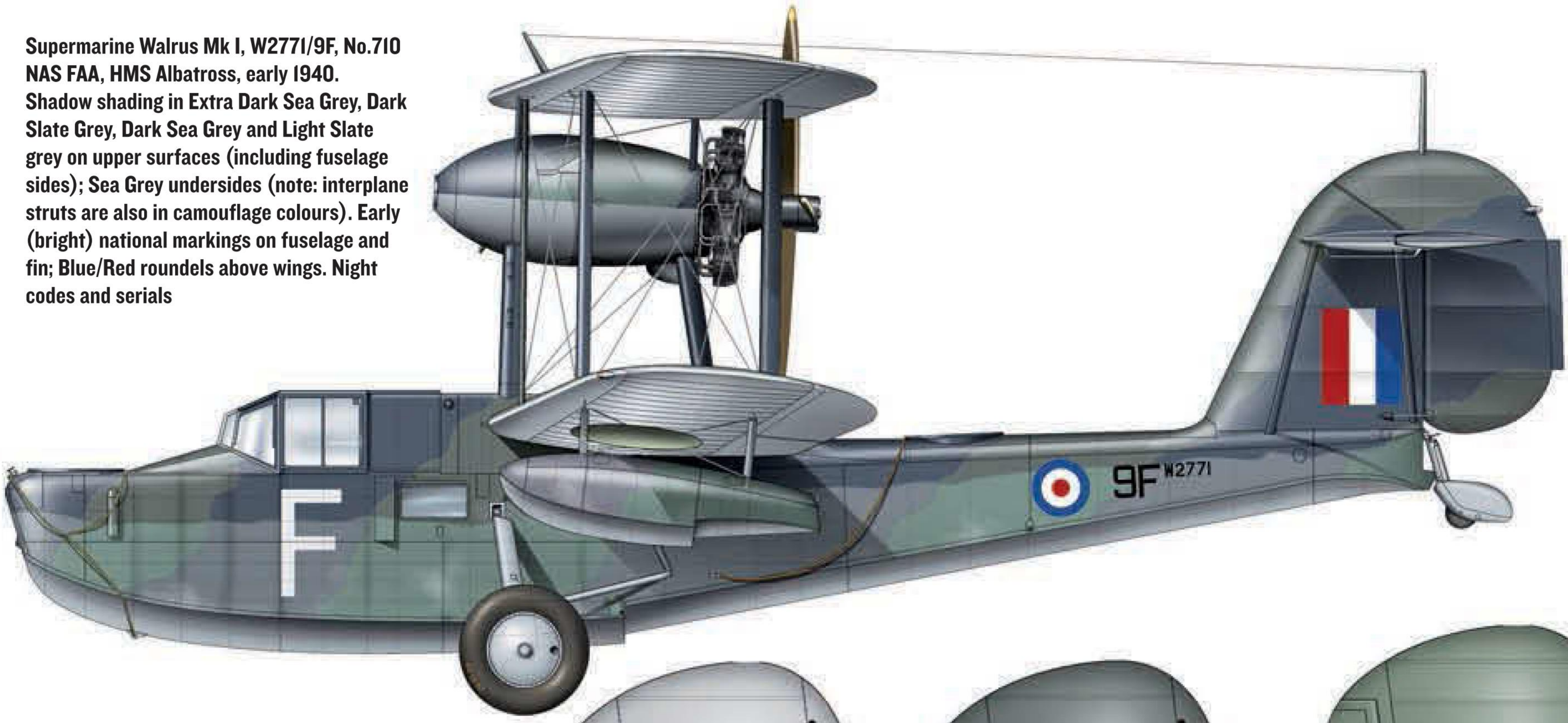

Supermarine Walrus Mk I, L2247, HMAS Australia, Dakar (Senegal), September 1940. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. Early style colours of all national markings with unusual fin flash the full height of the vertical tail surfaces; fuselage roundel has yellow outer ring added. Shot down on 25-9-1940 by Vichy French Curtiss 75A fighters during 'Operation Menace', the bombardment of the French Fleet at Dakar




Supermarine Walrus Mk I, K8548, No.700 NAS FAA, HMS Shropshire, 1940-41. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. Large fin flash; Blue/Red roundels above wings. Serials in Night



**Supermarine Walrus Mk I, W2771/9F, No.710 NAS FAA, HMS Albatross, early 1940. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey, Dark Sea Grey and Light Slate grey on upper surfaces (including fuselage sides); Sea Grey undersides (note: interplane struts are also in camouflage colours). Early (bright) national markings on fuselage and fin; Blue/Red roundels above wings. Night codes and serials**




**Right: Main view shows typical pattern for the upper surfaces of Walrus aircraft finished in the shadow shading scheme consisting of Extra Dark Sea Grey, Dark Slate Grey, with Dark Sea Grey and Light Slate grey top of the bottom wings. This pattern was specified for 'odd-serialled' aircraft while a mirror image of this pattern was to be applied to 'even-serialled' aircraft. In practice this does not seem to be a hard and fast rule. Also, the black 'footstep' markings were not common on camouflaged aircraft**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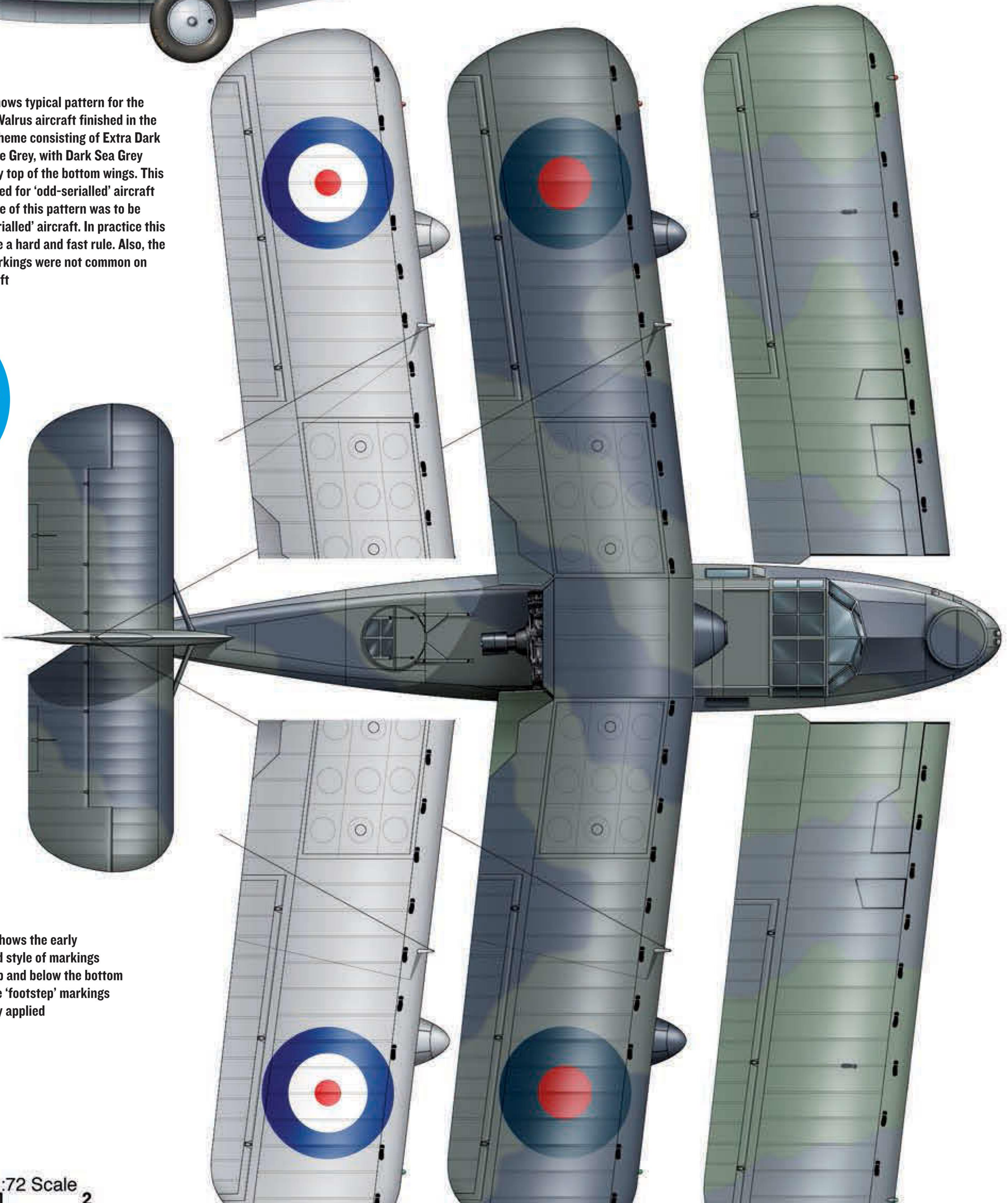
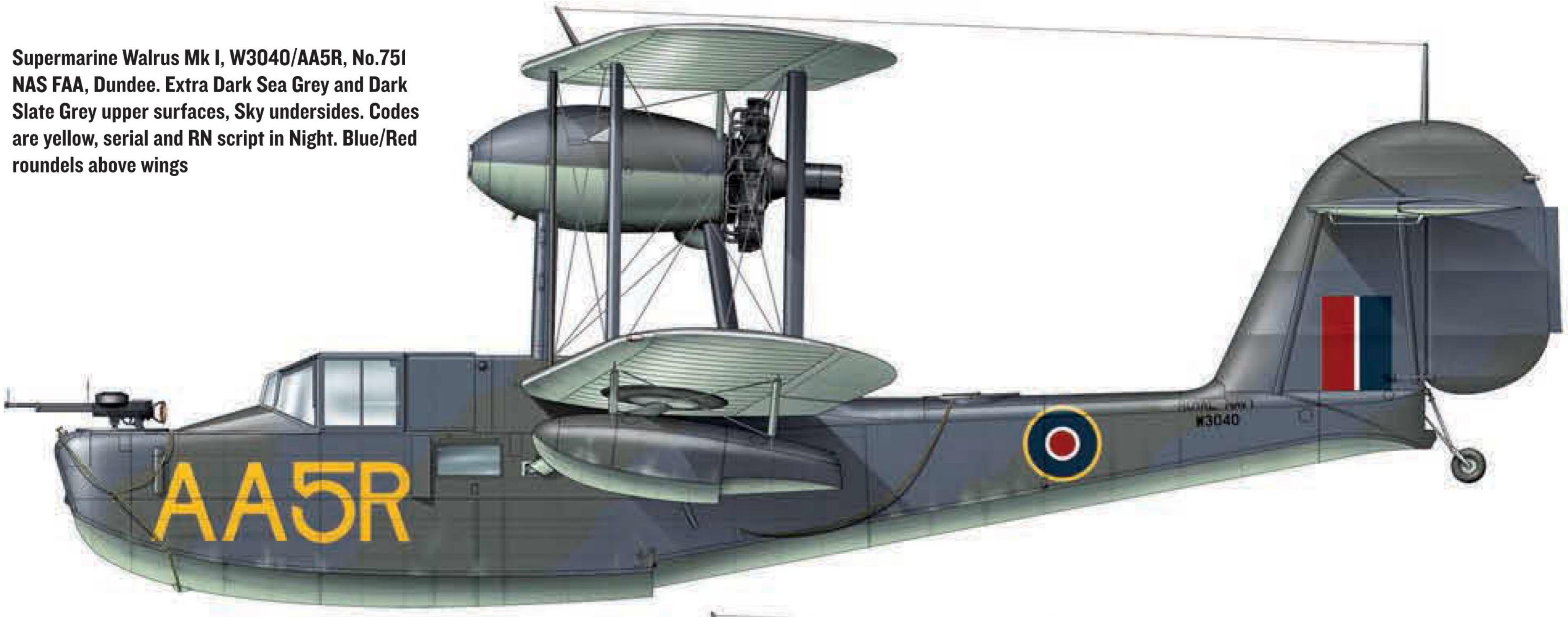
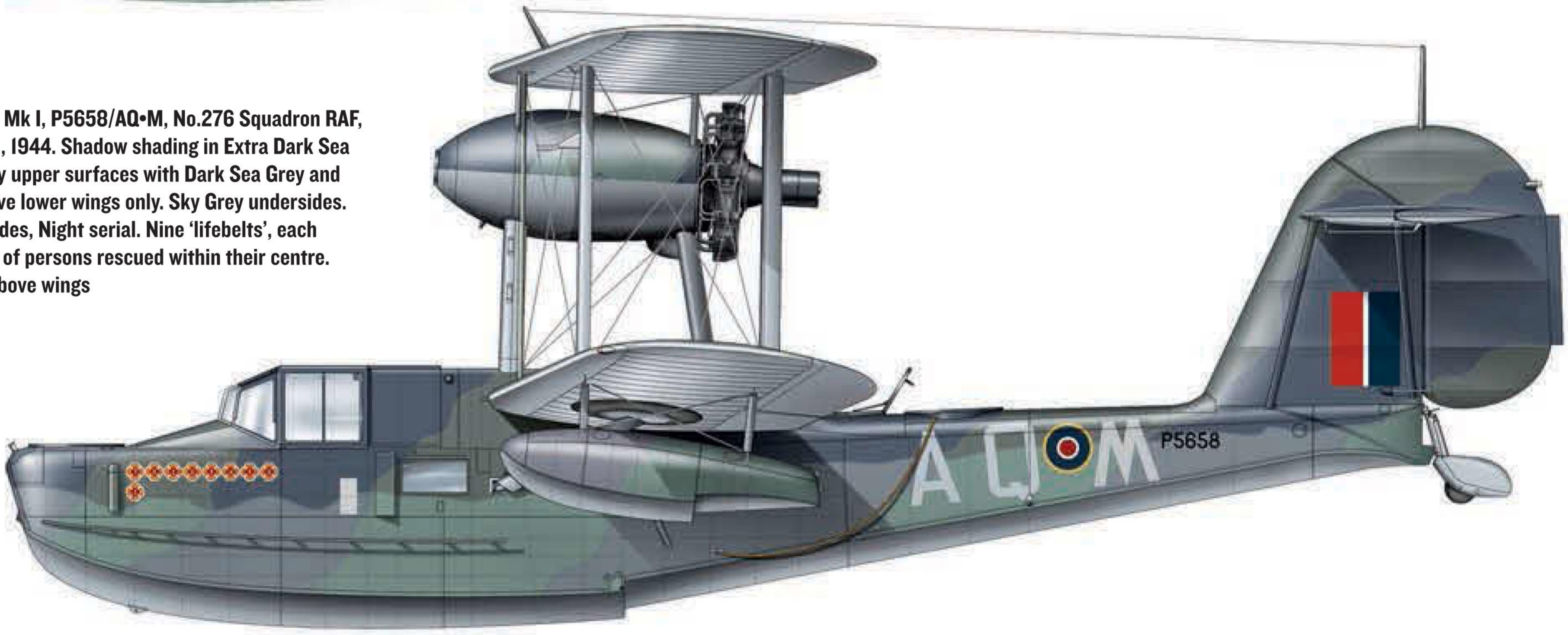


**Scrap view at right shows the early aluminium-finish and style of markings applied above the top and below the bottom wing. In this case the 'footstep' markings were more commonly applied**

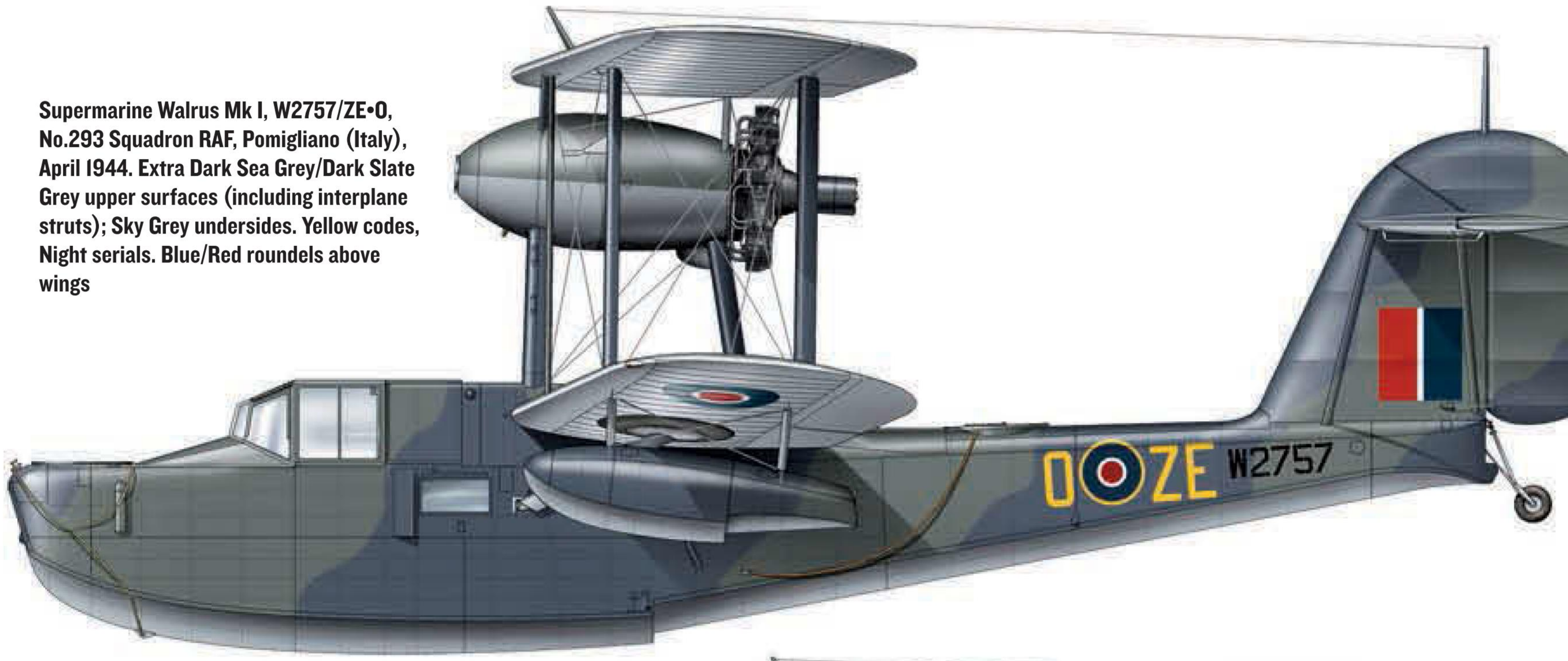
Supermarine Walrus Mk I, W3040/AA5R, No.751 NAS FAA, Dundee. Extra Dark Sea Grey and Dark Slate Grey upper surfaces, Sky undersides. Codes are yellow, serial and RN script in Night. Blue/Red roundels above wings



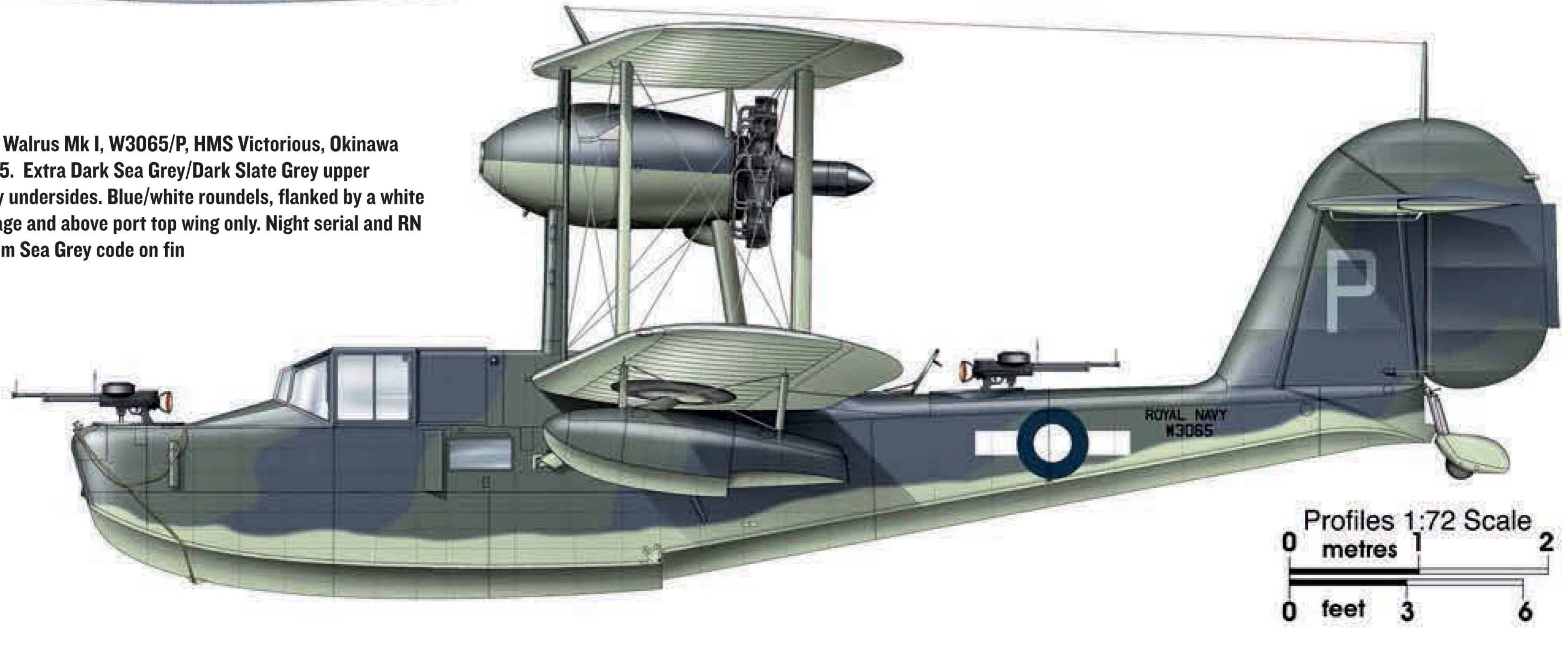

Supermarine Walrus Mk I, P5658/AQ•M, No.276 Squadron RAF, Harrowbeer (Devon), 1944. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. Medium Sea Grey codes, Night serial. Nine 'lifebelts', each carrying the number of persons rescued within their centre. Blue/Red roundels above wings

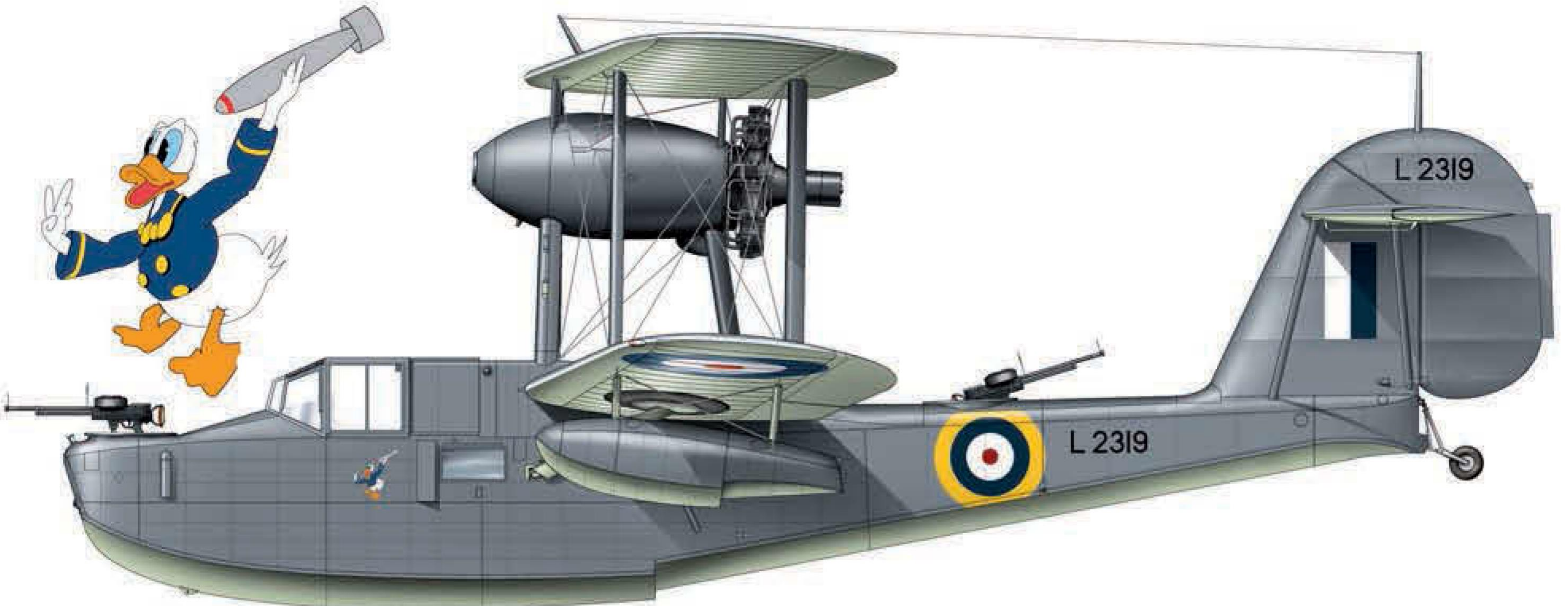



Supermarine Walrus Mk I, W2757/ZE•O, No.293 Squadron RAF, Pomigliano (Italy), April 1944. Extra Dark Sea Grey/Dark Slate Grey upper surfaces (including interplane struts); Sky Grey undersides. Yellow codes, Night serials. Blue/Red roundels above wings



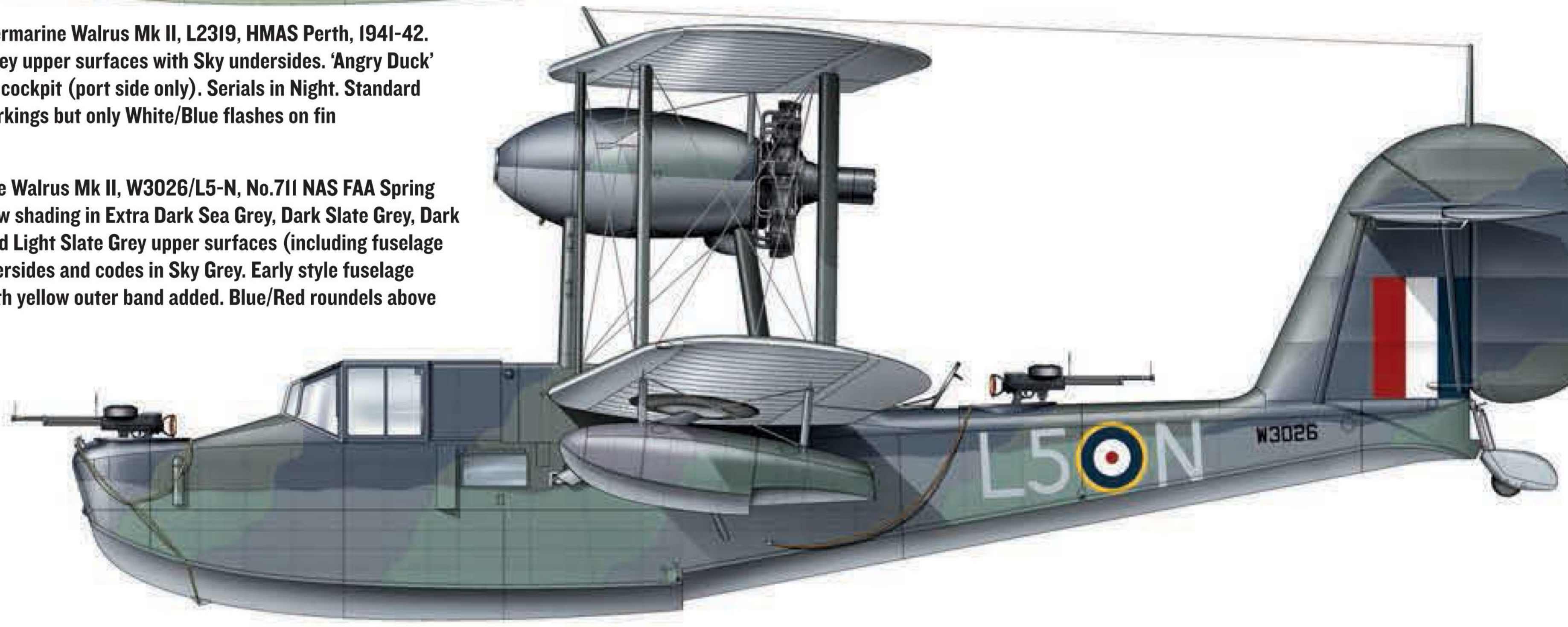

Supermarine Walrus Mk I, W3065/P, HMS Victorious, Okinawa (Japan), 1945. Extra Dark Sea Grey/Dark Slate Grey upper surfaces; Sky undersides. Blue/white roundels, flanked by a white bar, on fuselage and above port top wing only. Night serial and RN script, Medium Sea Grey code on fin



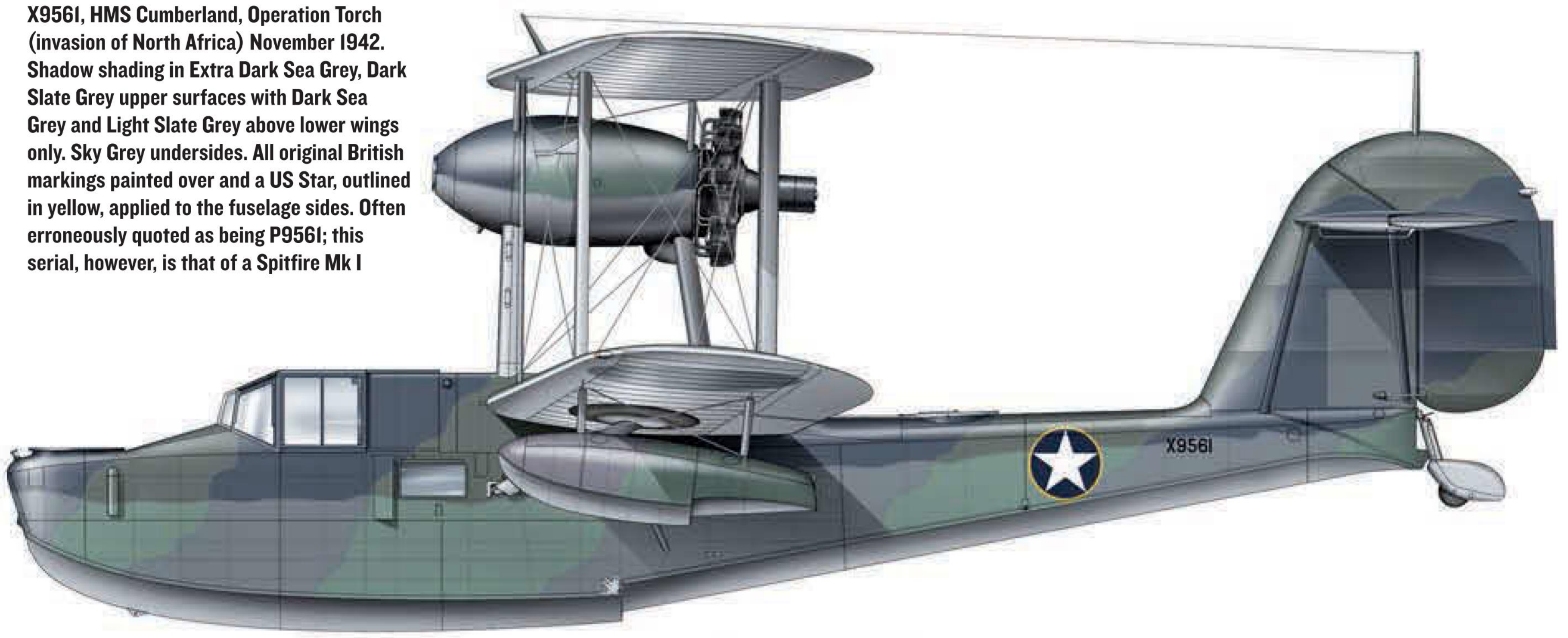



Above: Supermarine Walrus Mk II, L2319, HMAS Perth, 1941-42. Dark Sea Grey upper surfaces with Sky undersides. 'Angry Duck' motif below cockpit (port side only). Serials in Night. Standard national markings but only White/Blue flashes on fin

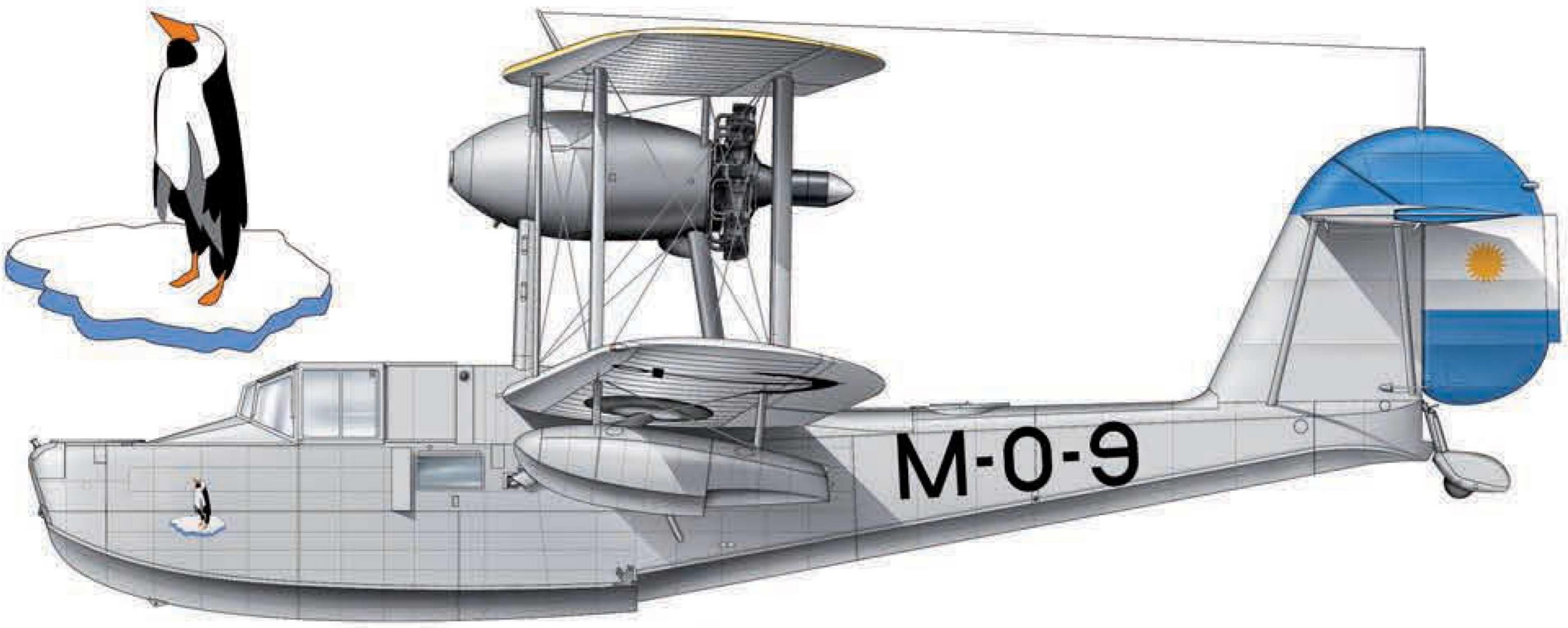
Supermarine Walrus Mk II, W3026/L5-N, No.711 NAS FAA Spring 1941. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey, Dark Sea Grey and Light Slate Grey upper surfaces (including fuselage sides). Undersides and codes in Sky Grey. Early style fuselage roundels with yellow outer band added. Blue/Red roundels above wings




Supermarine Walrus Mk II, probably serialled X9561, HMS Cumberland, Operation Torch (invasion of North Africa) November 1942. Shadow shading in Extra Dark Sea Grey, Dark Slate Grey upper surfaces with Dark Sea Grey and Light Slate Grey above lower wings only. Sky Grey undersides. All original British markings painted over and a US Star, outlined in yellow, applied to the fuselage sides. Often erroneously quoted as being P9561; this serial, however, is that of a Spitfire Mk I

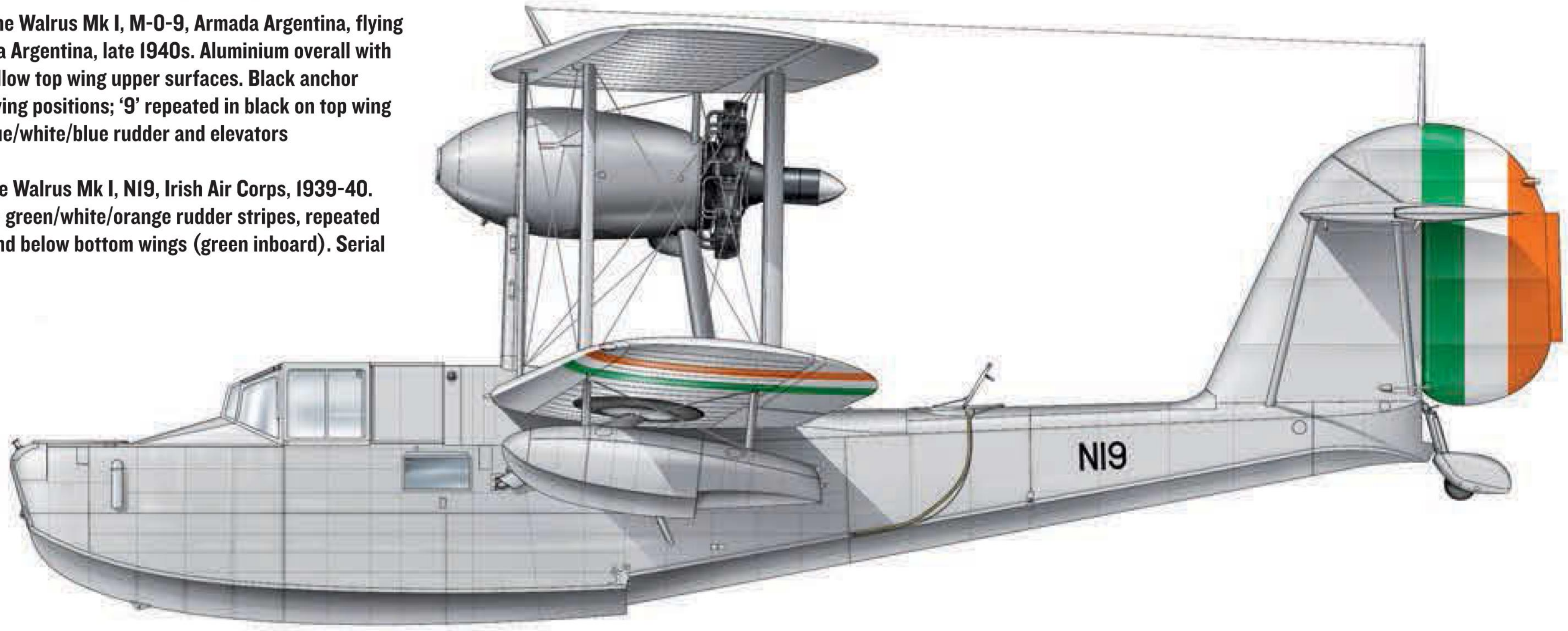


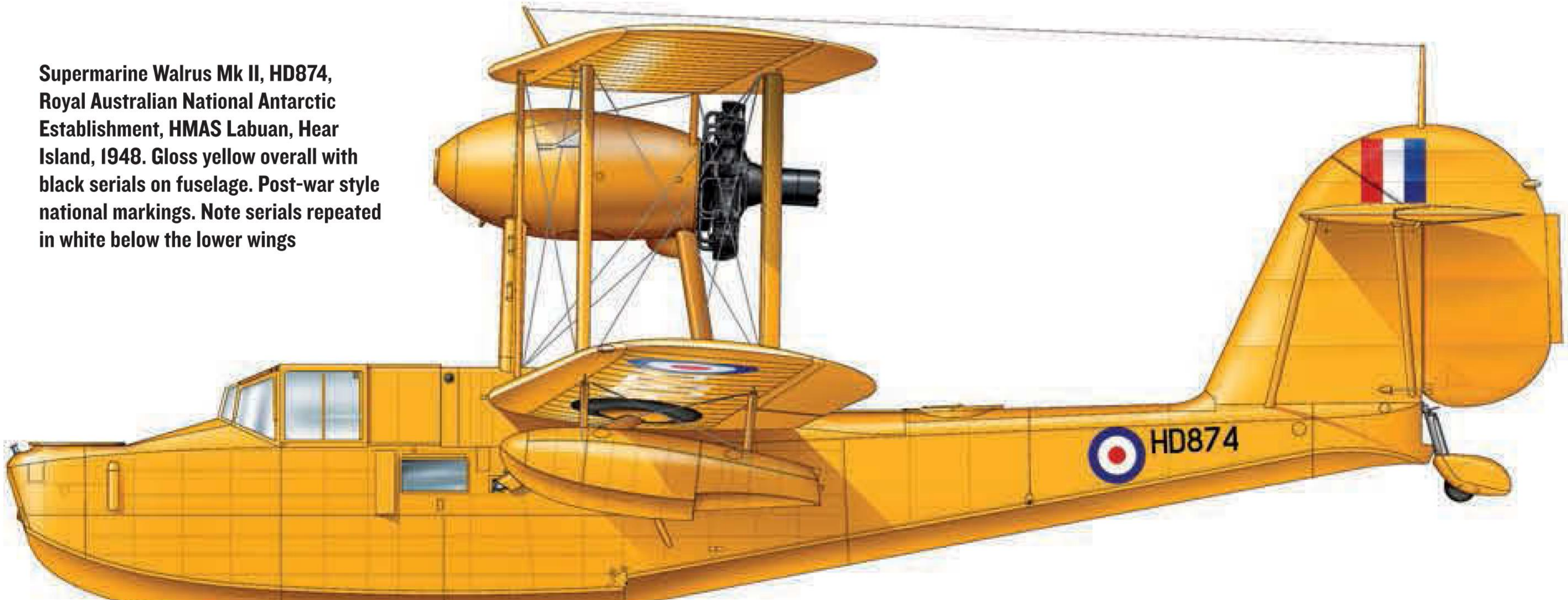

Supermarine Walrus II, HD908/BA-D, No.227 Squadron (RAF), 1944-45. Extra Dark Sea Grey/Dark Slate Grey upper surfaces; Sky undersides. Dull Red codes, Night serial and RN script. Blue/Red roundels above wings




Above: Supermarine Walrus Mk I, M-0-9, Armada Argentina, flying from the cruiser La Argentina, late 1940s. Aluminium overall with black lettering. Yellow top wing upper surfaces. Black anchor markings in four wing positions; '9' repeated in black on top wing centre section. Blue/white/blue rudder and elevators

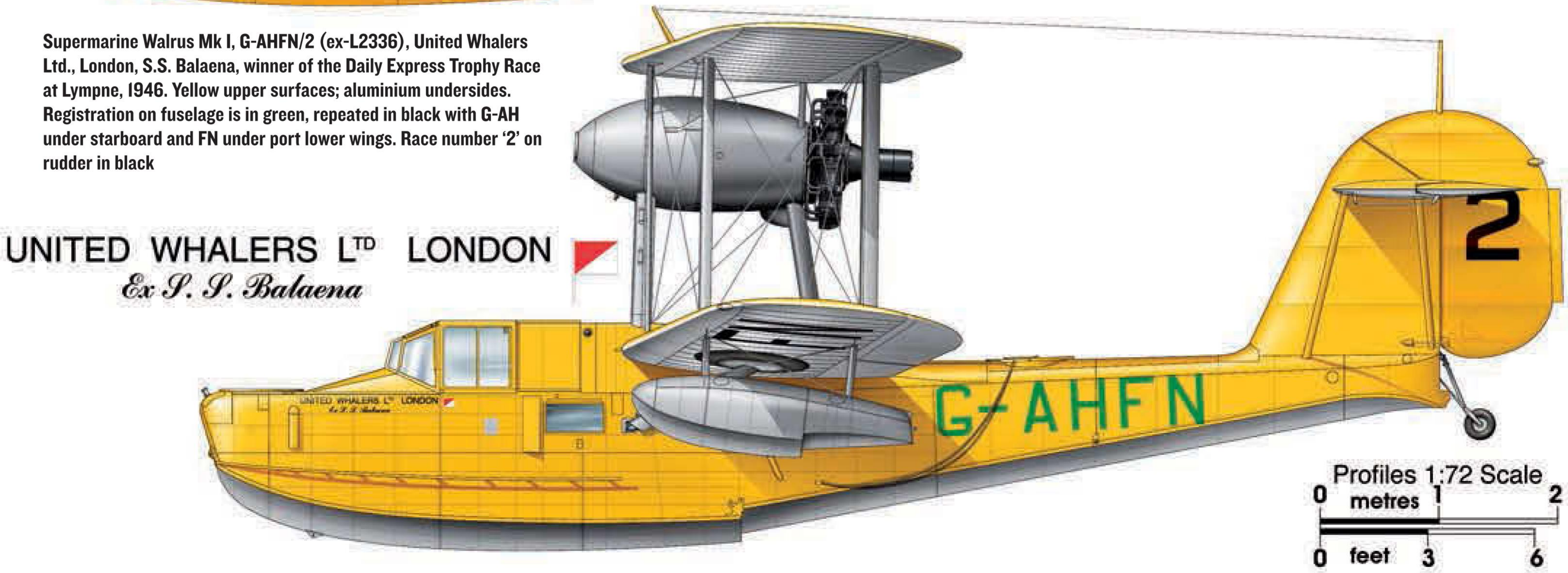
Right: Supermarine Walrus Mk I, N19, Irish Air Corps, 1939-40. Aluminium overall; green/white/orange rudder stripes, repeated above top wings and below bottom wings (green inboard). Serial in black




Supermarine Walrus Mk II, HD874, Royal Australian National Antarctic Establishment, HMAS Labuan, Hear Island, 1948. Gloss yellow overall with black serials on fuselage. Post-war style national markings. Note serials repeated in white below the lower wings

Supermarine Walrus Mk I, G-AHFN/2 (ex-L2336), United Whalers Ltd., London, S.S. Balaena, winner of the Daily Express Trophy Race at Lympne, 1946. Yellow upper surfaces; aluminium undersides. Registration on fuselage is in green, repeated in black with G-AH under starboard and FN under port lower wings. Race number '2' on rudder in black

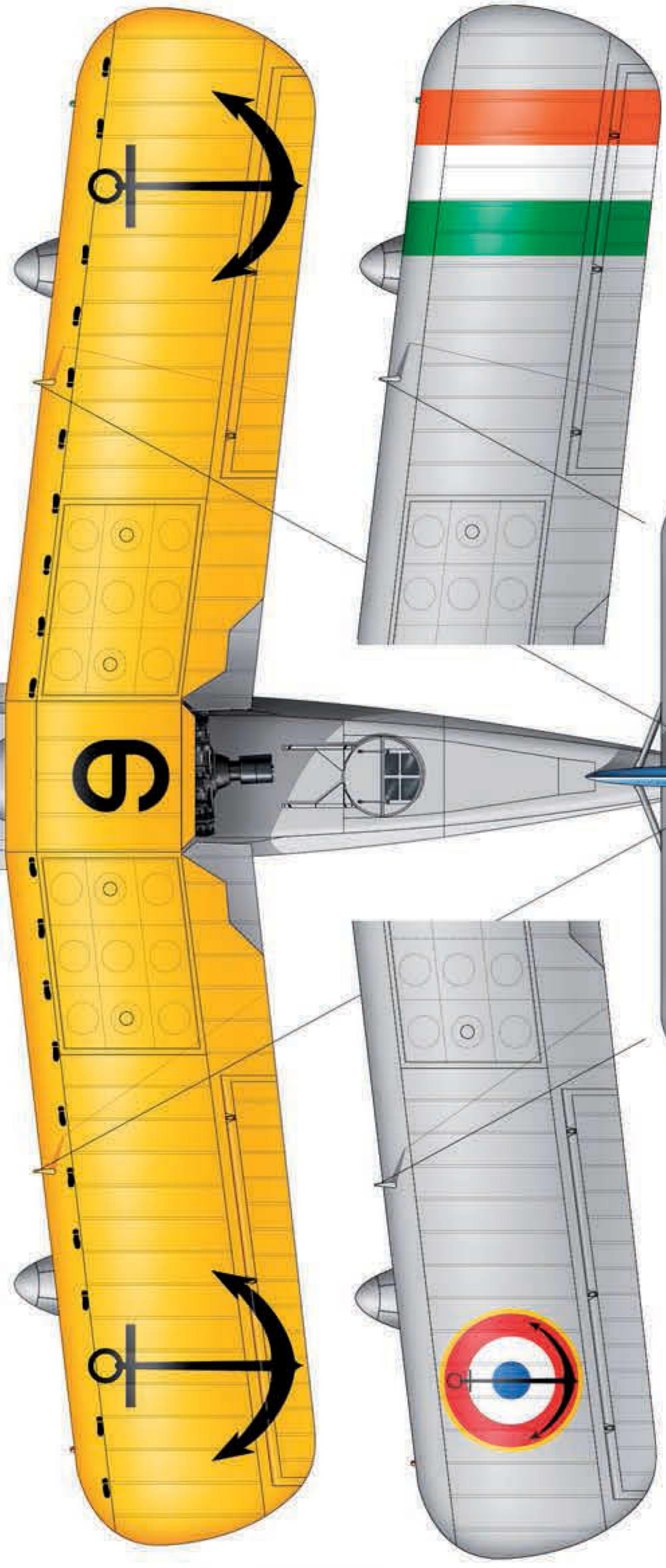


Main top view refers to M-0-9 of the Argentine Navy illustrated on facing page. All aluminium finish except for the upper surface of the top wing which is yellow. 'Anchor' markings in black identical to the ones above the top wing are applied below the bottom wing. Elevetor colours of blue and white are carried on both upper and lower surfaces

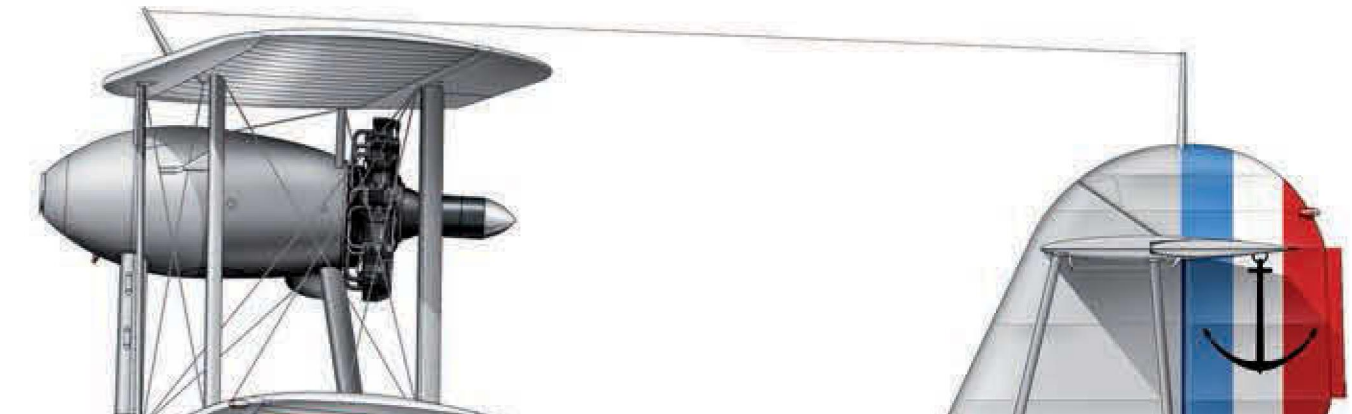
Scrap view below shows the 'footstep' markings carried on the Irish, Argentinian and French aircraft

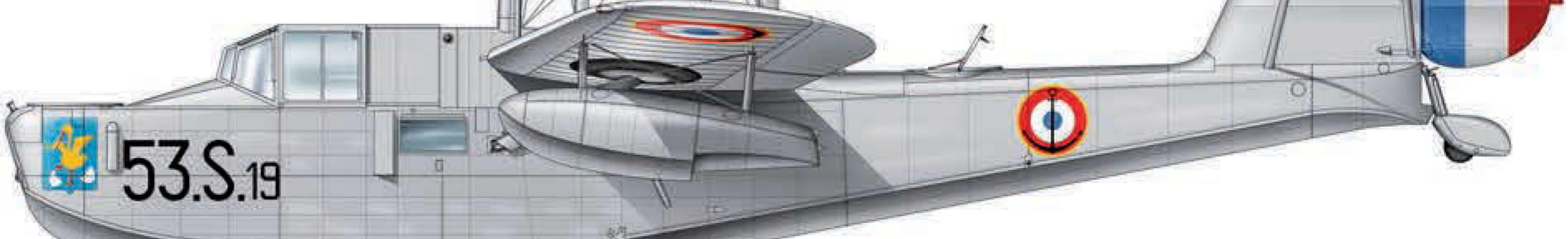
Scrap view (left) shows the wing markings for N19 of the Irish Air Corps illustrated on facing page

Scrap view below left shows size and position of wing roundels (above top and below bottom wings) carried by the French Aéronavale aircraft illustrated at bottom of the page

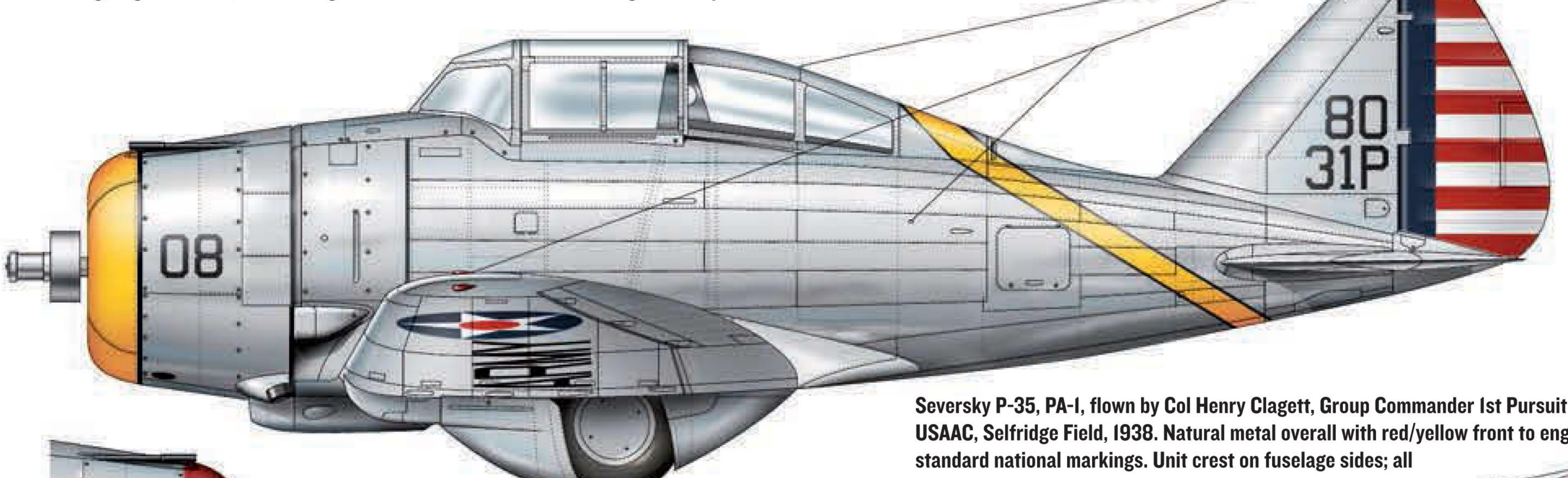


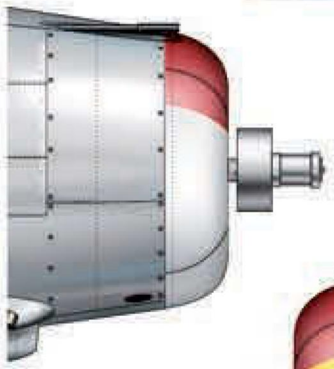
Supermarine Walrus Mk I, 53.S.19, Flottille 53S French Aéronavale, Hourtin, 1945-48. Aluminium overall with black codes on nose. Blue/white/red rudder with anchor in black superimposed. Standard French Navy roundels (outlined in yellow) in all six positions



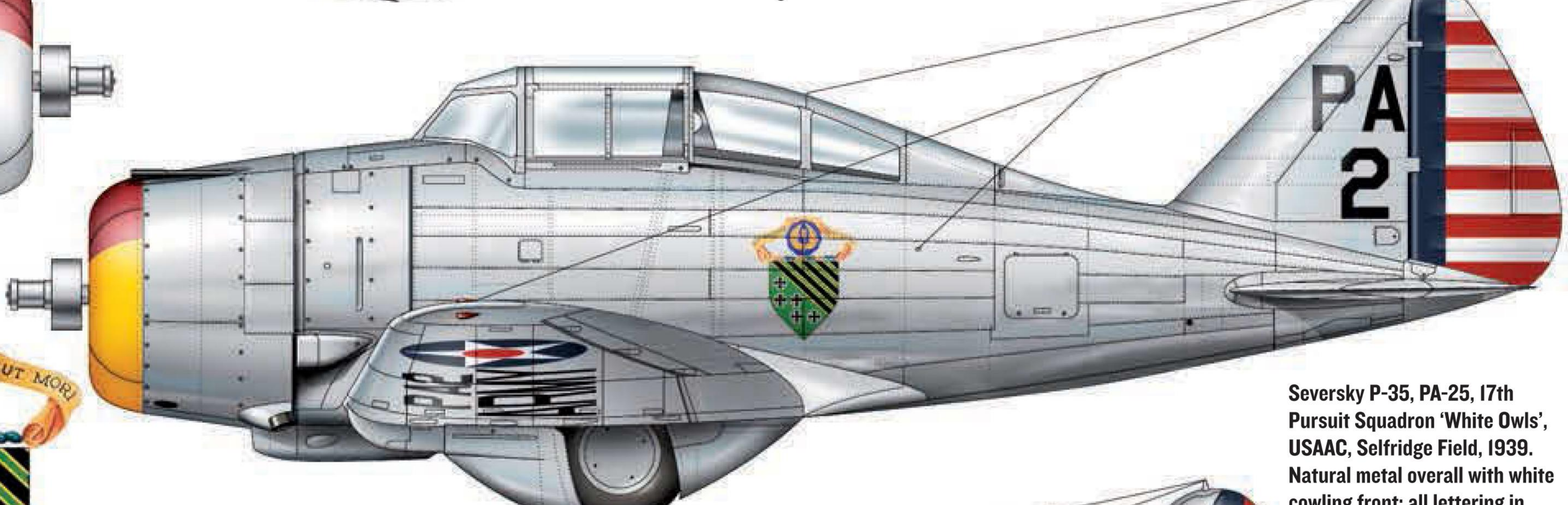


Seversky P-35, 80-31P, flown by 'A' Flight Leader, 39th Pursuit Squadron, 31st Pursuit Group USAAC, Selfridge Field, 1940. Natural metal overall with yellow trim to rear fuselage and front of cowling, edged in black; all lettering in black. Standard national markings for the period

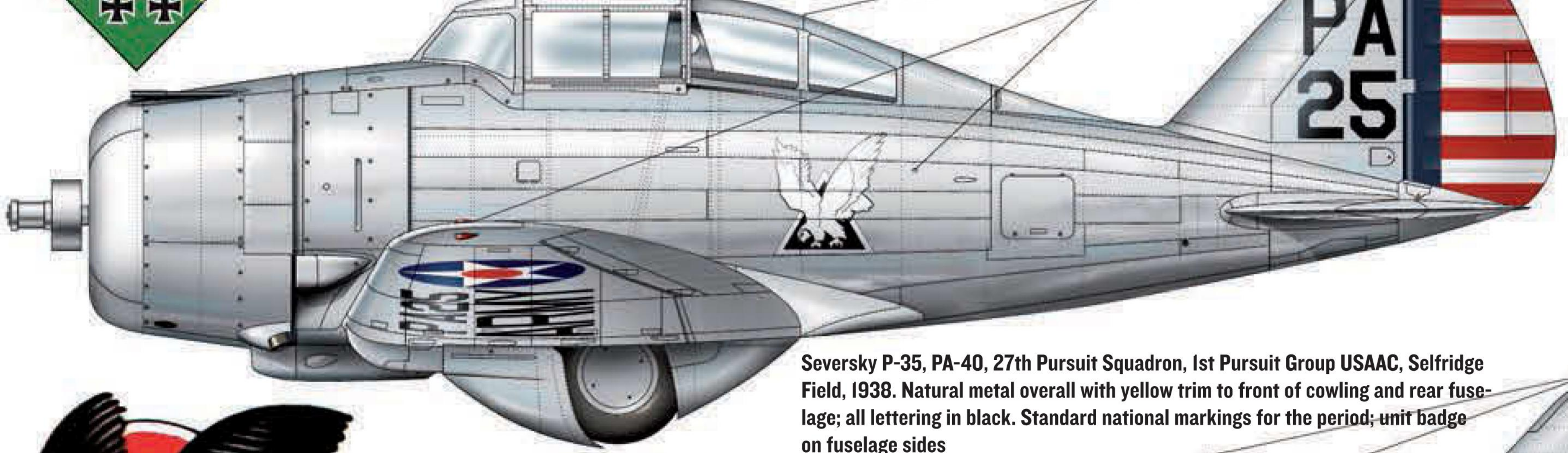


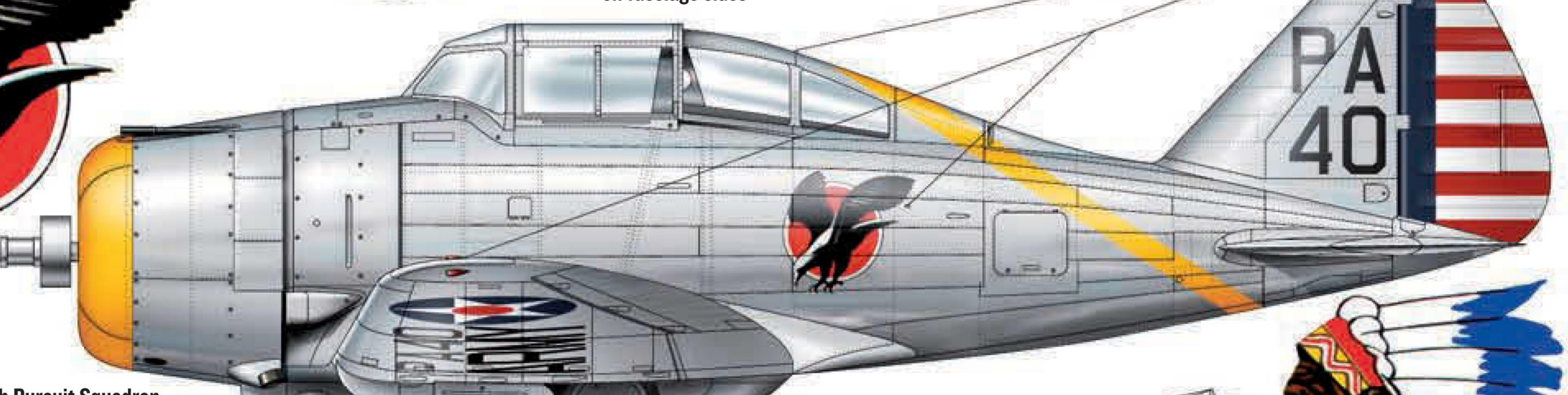
Seversky P-35, PA-1, flown by Col Henry Clagett, Group Commander 1st Pursuit Group USAAC, Selfridge Field, 1938. Natural metal overall with red/yellow front to engine cowl; standard national markings. Unit crest on fuselage sides; all lettering in black



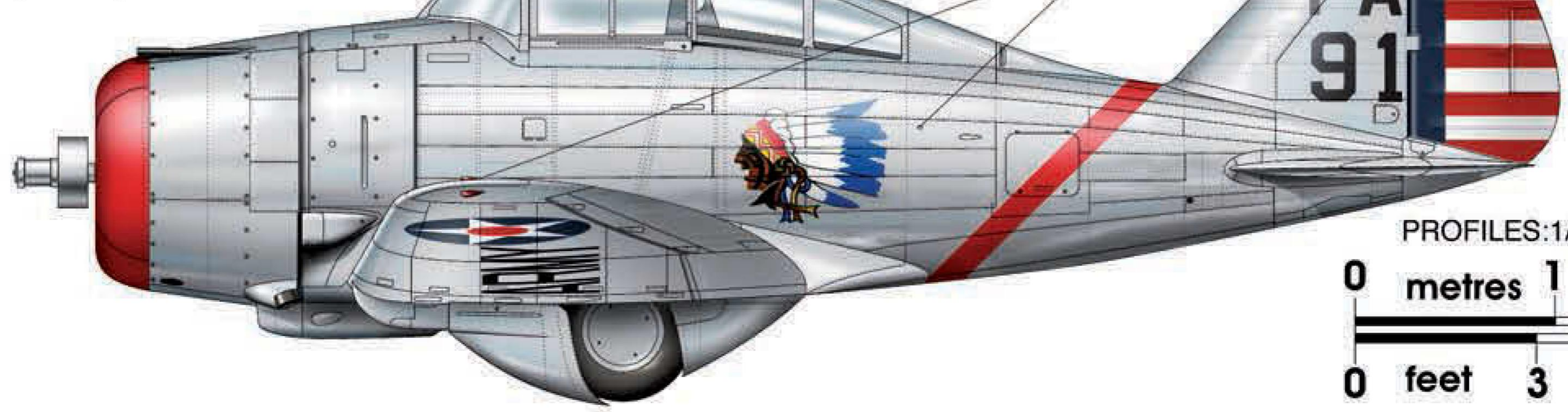
Seversky P-35, PA-25, 17th Pursuit Squadron 'White Owls', USAAC, Selfridge Field, 1939. Natural metal overall with white cowling front; all lettering in black. Standard national markings; unit badge on fuselage sides




Seversky P-35, PA-40, 27th Pursuit Squadron, 1st Pursuit Group USAAC, Selfridge Field, 1938. Natural metal overall with yellow trim to front of cowling and rear fuselage; all lettering in black. Standard national markings for the period; unit badge on fuselage sides



Seversky P-35, PA-91, 94th Pursuit Squadron, 1st Pursuit Group USAAC, Selfridge Field, 1938. Natural metal overall with red trim around rear fuselage and front of cowling; all lettering in black. Standard national markings for the period; unit badge on fuselage sides

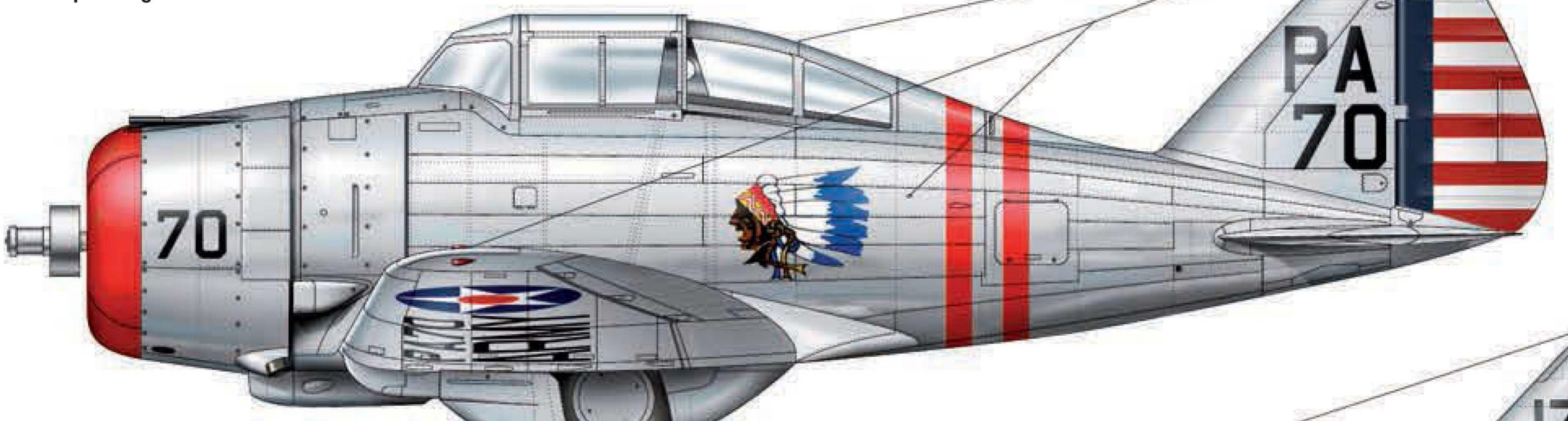



PROFILES:1/48 SCALE

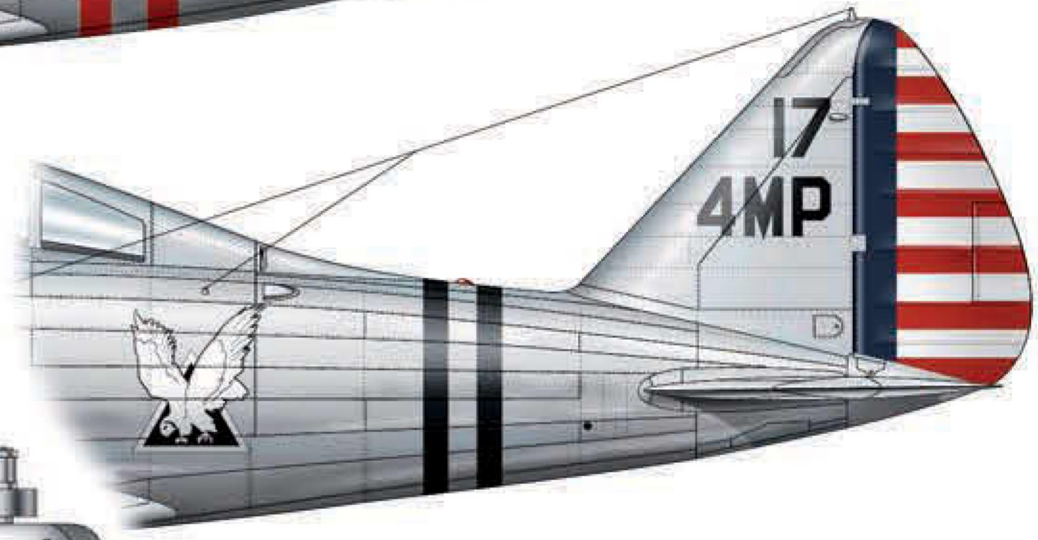
0 metres 1 2

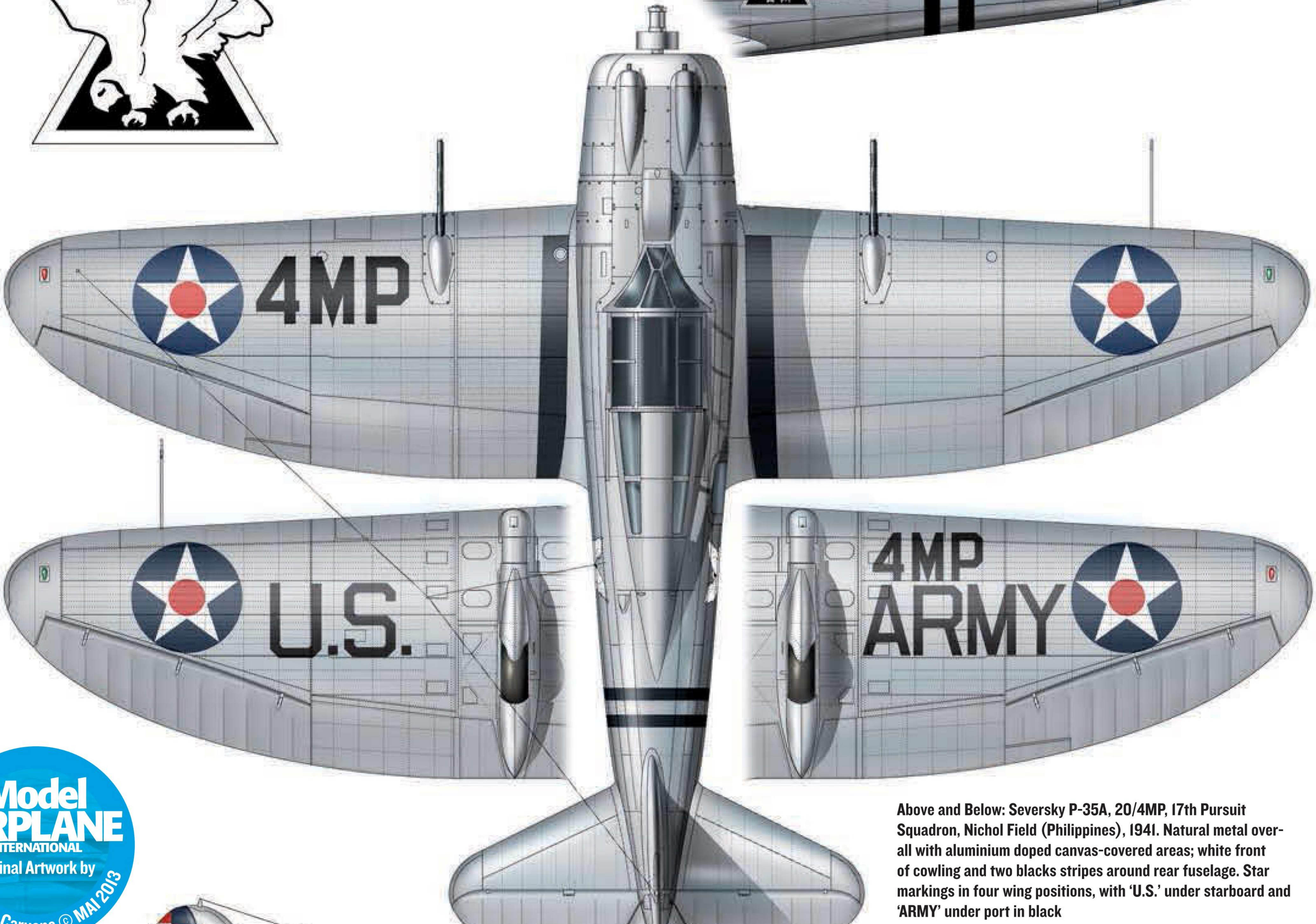
0 feet 3 6

Seversky P-35, PA-70, flown by the Commanding Officer of 94th Pursuit Squadron (Major H.H. George), 1938. Natural metal overall with aluminium doped fabric-covered areas; red front of cowling and double bands around fuselage. Standard markings in four wing positions; note 'PA70' added ahead of 'ARMY' under port wing



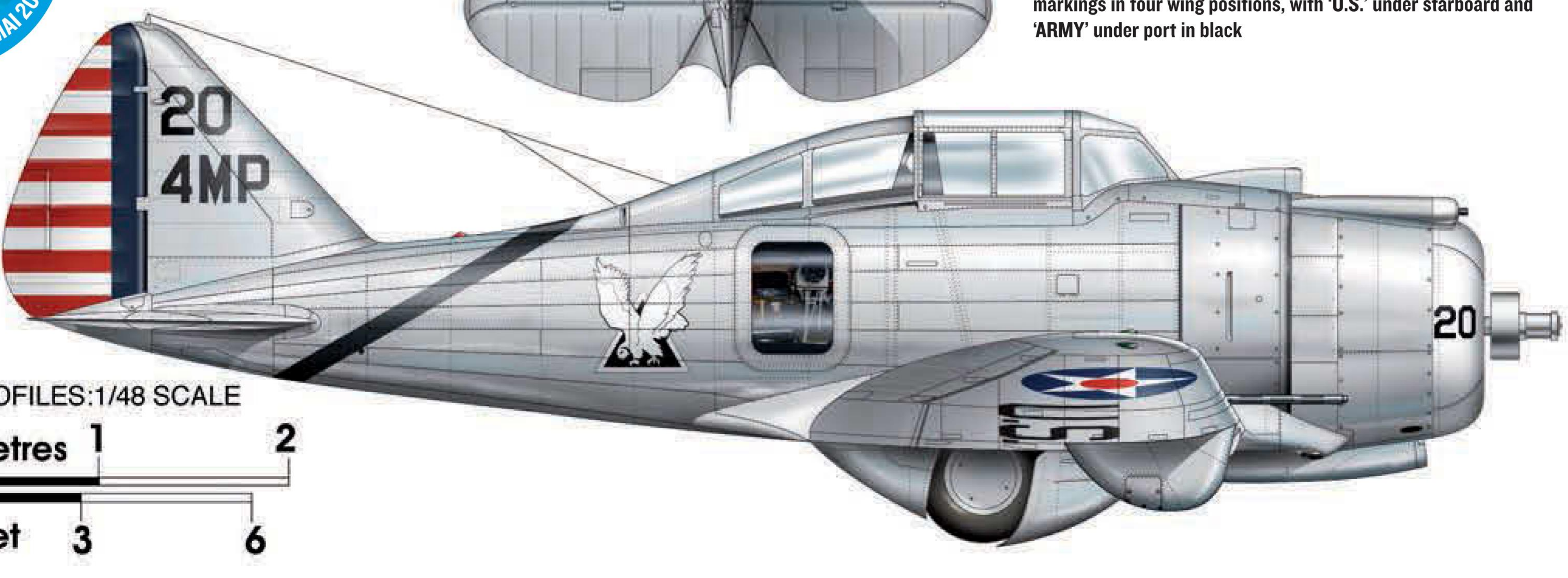
Right: Scrap view of Seversky P-35A, 17/4MP, flown by the Commading Officer of the 17th Pursuit Squadron, Lt Boyd Wagner, Nichol Field (Philippines), 1941. Natural metal overall with aluminium doped canvas-covered areas; white front of cowling and two blacks stripes around rear fuselage




Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

Above and Below: Seversky P-35A, 20/4MP, 17th Pursuit Squadron, Nichol Field (Philippines), 1941. Natural metal overall with aluminium doped canvas-covered areas; white front of cowling and two blacks stripes around rear fuselage. Star markings in four wing positions, with 'U.S.' under starboard and 'ARMY' under port in black




PROFILES:1/48 SCALE

0 metres 1 2

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Top: A-4H Skyhawk, No.242 (BuNo.155242), prior to delivery to the Israeli Air Force, California, 1967. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Standard USAF markings. Codes in black at base of fin only

Below Right: A-4H Skyhawk, No.61, No.111 'Flying Dragon' Squadron, Israeli Air Force. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Star of David marking on rear fuselage. Codes in black. Unit badge on fin

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A-4H Skyhawk, No.09, No.100 'Valley' Squadron, 1968. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Lettering in black. Note position of Star of David on rear fuselage. Unit badge on fin

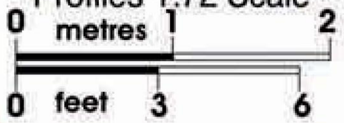
A-4H Skyhawk, No.132, No.100 'Valley' Squadron, 1973. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. All lettering in black. Star of David moved to centre fuselage. Unit badge with a red background on fin

A-4H Skyhawk, No.790, No.102 'Flying Tigers' Squadron, early 1970s. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Codes in black. unit badge on fin

Top: A-4H Skyhawk, No.293, No.110 ‘Knights of the North’ Squadron, Israeli Air Force, 1980. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Yellow/Black rudder. Standard national markings. Lettering in black. Unit badge on fin

Below Right: A-4H, No.147, No.141 (Reserve) ‘Battering Ram’ Squadron, Israeli Air Force. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Codes in black. Unit badge on fin

Profiles 1:72 Scale



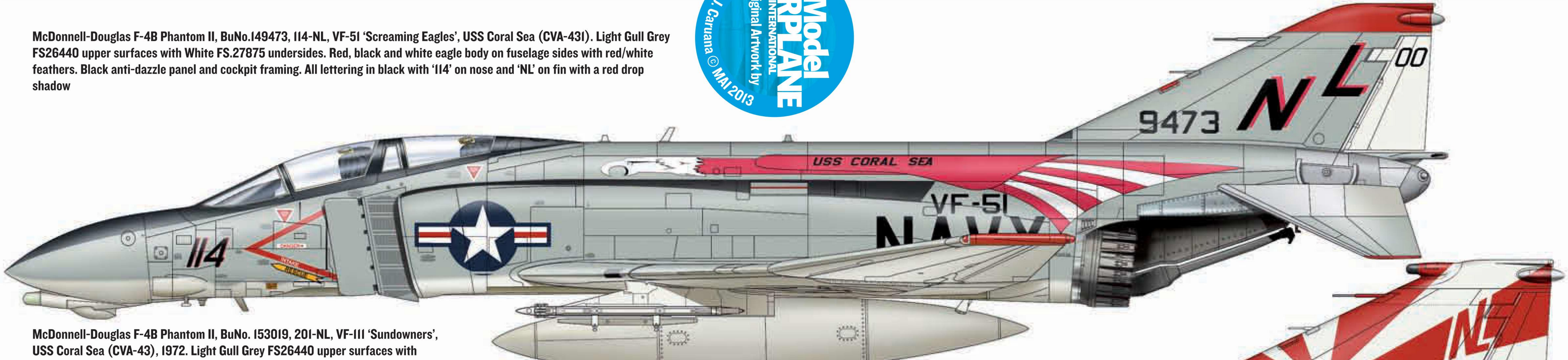
A-4H Skyhawk, No.205, No.102 Flying Tigers’ Squadron, 1982. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Blue rudder. Codes in black. Unit badge on fin

A-4H Skyhawk, No.766, Flight School Unit, 1973. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Black codes. Unit badge on fin

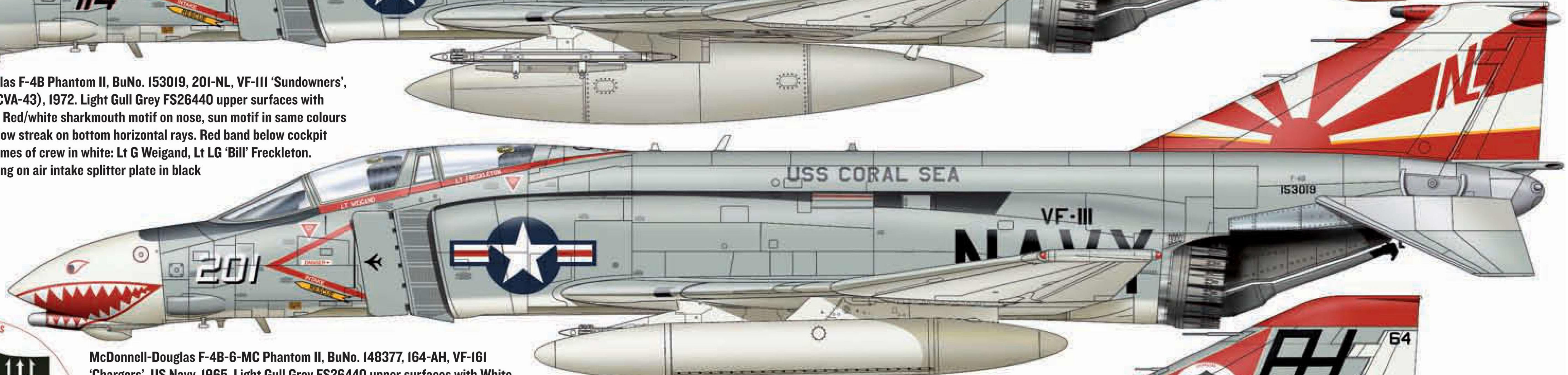
A-4H Skyhawk, No.229, Flight School Unit, 1985. FS.33531, FS.34227 and FS.30219 uppersurfaces with FS.35622 undersides. Orange nose and rudder. All lettering in back. Unit badge on fin

Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

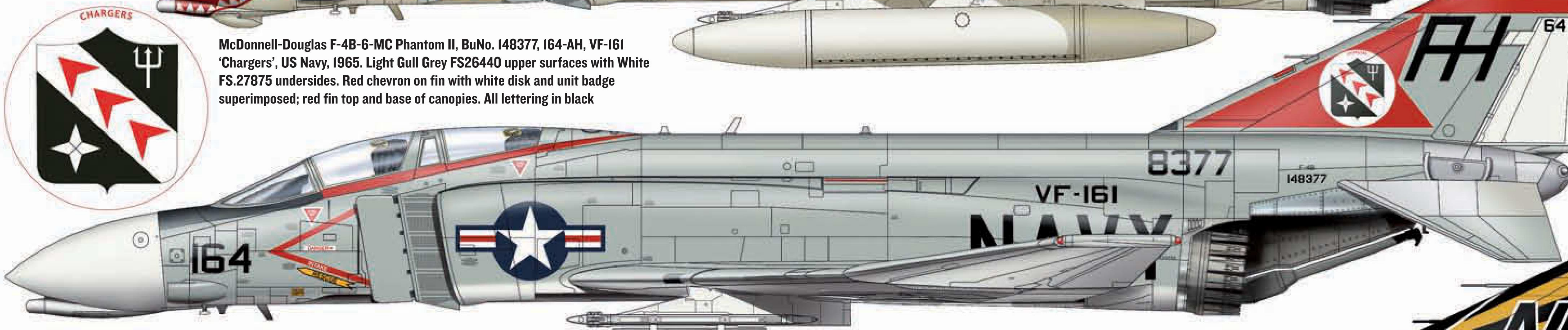
McDonnell-Douglas F-4B Phantom II, BuNo.149473, 114-NL, VF-51 'Screaming Eagles', USS Coral Sea (CVA-431). Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. Red, black and white eagle body on fuselage sides with red/white feathers. Black anti-dazzle panel and cockpit framing. All lettering in black with '114' on nose and 'NL' on fin with a red drop shadow




McDonnell-Douglas F-4B Phantom II, BuNo. 153019, 201-NL, VF-111 'Sundowners', USS Coral Sea (CVA-43), 1972. Light Gull Grey FS26440 upper surfaces with White FS.27875. Red/white sharkmouth motif on nose, sun motif in same colours on tail with a yellow streak on bottom horizontal rays. Red band below cockpit canopies with names of crew in white: Lt G Weigand, Lt LG 'Bill' Freckleton. MiG-17 kill marking on air intake splitter plate in black

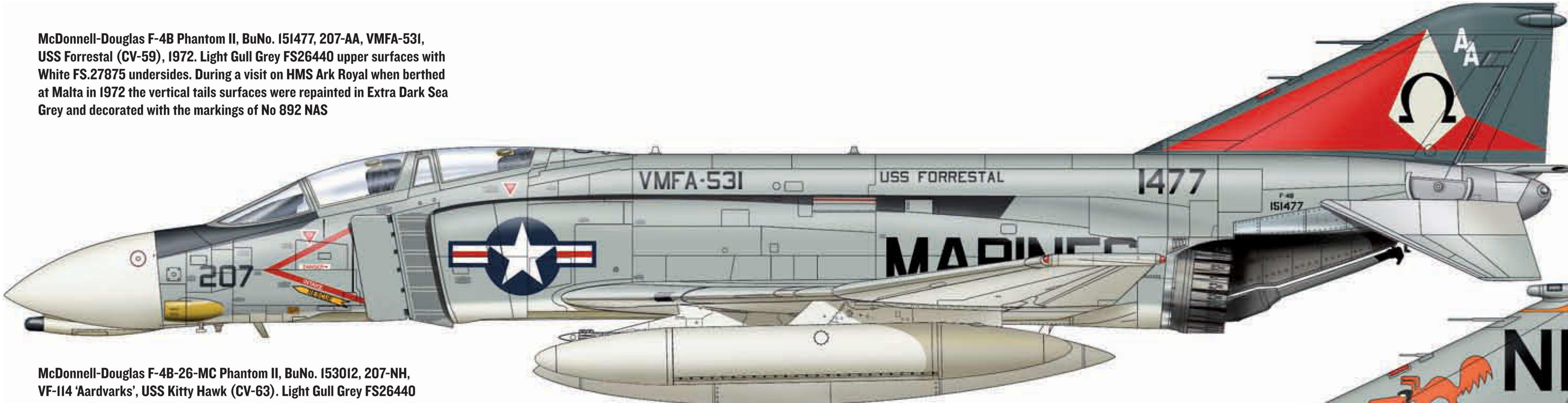



McDonnell-Douglas F-4B-6-MC Phantom II, BuNo. 148377, 164-AH, VF-161 'Chargers', US Navy, 1965. Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. Red chevron on fin with white disk and unit badge superimposed; red fin top and base of canopies. All lettering in black

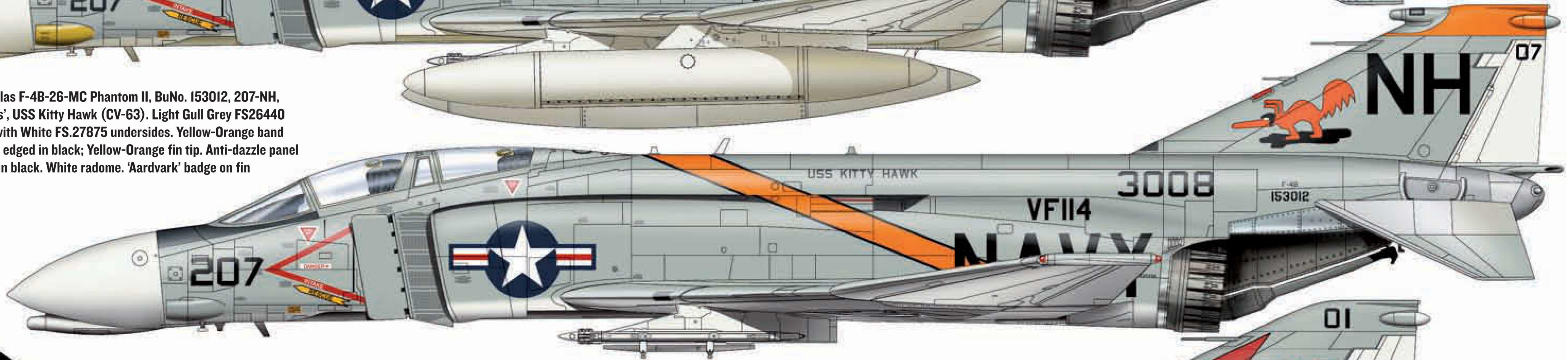



McDonnell-Douglas F-4B-13-MC Phantom II, BuNo. 150460, 210-NF, VF-151, USS Midway (CVA-41). Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. Yellow/Black vertical tail surfaces with 'NF' in black, outlined in white; all other lettering in black. Black anti-dazzle panel and lower section of canopies

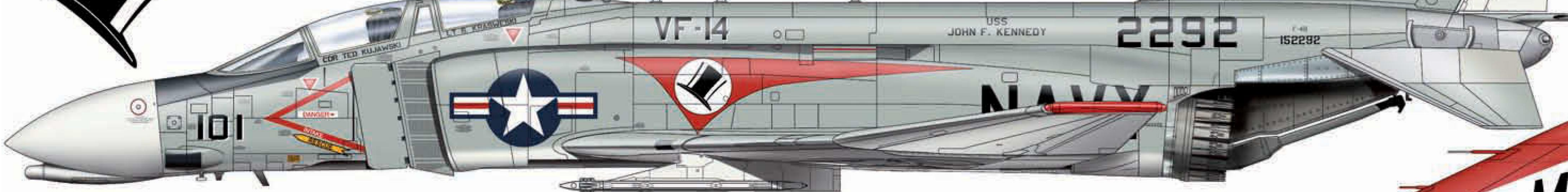
McDonnell-Douglas F-4B Phantom II, BuNo. 151477, 207-AA, VMFA-531, USS Forrestal (CV-59), 1972. Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. During a visit on HMS Ark Royal when berthed at Malta in 1972 the vertical tails surfaces were repainted in Extra Dark Sea Grey and decorated with the markings of No 892 NAS




McDonnell-Douglas F-4B-26-MC Phantom II, BuNo. 153012, 207-NH, VF-114 'Aardvarks', USS Kitty Hawk (CV-63). Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. Yellow-Orange band around fuselage, edged in black; Yellow-Orange fin tip. Anti-dazzle panel and all lettering in black. White radome. 'Aardvark' badge on fin



McDonnell-Douglas F-4B Phantom II, BuNo. 152292, 101-AB, VF-14 'Top Hatters', USS John F. Kennedy (CVA-67), 1972 Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. Black anti-dazzle panel and all lettering, with '101' on nose and 'V-14' on spine having a white drop shadow; 'AB' on fin has a red drop shadow. Red flash on fuselage sides thinly outlined in black with unit badge superimposed. Red trim on fin (outlined in black) and wing tips




McDonnell-Douglas F-4B Phantom II, BuNo. 152327, 7-MC, VMFA-351, USMC, 1976. Light Gull Grey FS26440 upper surfaces with White FS.27875 undersides. White radome, black anti-dazzle panel and canopy framing. Red/white/blue band on air intakes, same colours on vertical tail surfaces. All lettering in black except '7' on fin which is white

Among the debris which Allied bombers left in their wake were these Re.2005s that had not even been given the time to go into action. The scene at Sigonella (Catania) shows the vast devastation wrecked by Allied bombing; the damaged Re.2005s stand in company of a CR.42 (probably night-fighter version) and several C.202s

# Operation Husky – The Fight For Aerial Supremacy

On 14 January 1943, Roosevelt and Churchill met in Casablanca to discuss the next major step following the successful Allied landings in north-west Africa of the previous November. Spurred by the continuous move to drive the Axis out of Africa, it was decided that it would be logical to target Sicily as the first step towards a foothold in mainland Europe. Although Stalin was not present for that meeting, he had put pressure on his Allies for such a move, since that would relieve pressure from the critical situation on the Russian Front. Another consideration was that the occupation of Sicily would strengthen Mediterranean lines of communication and intensify pressure on Italy to capitulate. The date was set for 10 July 1943 – the die was cast!

Elaborate plans were drawn up, starting with extensive reconnaissance missions tasked to photograph the 300 miles of Sicilian coastline, together with airfields and all other military installations. After a series of modifications and detailed discussions, the final plan was sealed on 13 May, only a few days after some 250,000 Axis forces in North Africa had finally collapsed and surrendered to General Alexander in Tunisia.

Apart from the naval aspect, carrying military personnel that would set foot on Sicilian beaches, great importance was given to the part that had to be played by Allied air forces. Unfortunately this was not to be the one-hundred-percent success that the planners had hoped for, but, at least, the fighter component succeeded in clearing the skies from most of the opposition that the Luftwaffe and Regia Aeronautica could still throw into battle. And for this to be appreciated one must recognise the importance of Malta's bases and the fact that the island had resisted the brunt one of the most savage conflicts of the Second World War. For it was from its bases that the fighter cover for the invasion was to be provided.

The Bf 109G-2/R-3 Trop appeared in Sicily just in time to participate in Fliegerkorps II operations against Malta. The unit, marked with the famous 'Ace of Spades', was to remain the main opponent of Malta' Spitfires up to the days of the invasion of Sicily

## Conquest of the Minor Islands

By early June, the Allies had turned their attention to the small islands of Pantelleria and Lampedusa, that were pounded heavily day in and day out. The height of this operation was reached on 10 June, when attacks were increased in tempo; efforts by the Axis to reinforce the garrison at Pantelleria through supplies flown in by Ju 52s coincided with the arrival of Boeing B-17s escorted by Curtiss P-40 fighters. Another large American formation was met by Bf 109s in the afternoon, resulting in a fierce large-scale aerial battle.

During the previous ten days the Allies had flown over 5,280 sorties against Pantelleria, dropping some 6,200 tons of bombs. Notwithstanding this heavy tonnage, little damage was sustained by military installations, most of which were underground or in caves. So it was with some surprise that the British naval group that landed the first troops ashore during the night met no resistance. Lampedusa's garrison, under the command

of Admiral Pavesi, surrendered without firing a shot. On 12 June, the Allies occupied Lampedusa, Linosa and Lampione; in actual fact, Lampedusa's garrison surrendered to an RAF sergeant who landed his Swordfish on the island due to a technical problem!

## Malta – The Luftwaffe Licks its Wounds

Following the great debacle suffered by the Luftwaffe on 10 May 1942, when German fighters and bombers were overwhelmed by Malta's Spitfires and the skill of their pilots, the Island drew a sigh of relief and reveived further reinforcements. During June and July HMS Eagle ferried 125 Spitfires in four operations, of which only five aircraft failed to reach Malta. These supplies improved the defence of Malta, especially as another major battle was going to be fought in August. The supplies carried by Operation Pedestal that managed to survive the onslaught, and especially the salvage of fuel from the tanker Ohio, not only helped keep Malta alive but also became the stuff of legends during their own time.

The Axis regretted their blunder in not having invaded Malta. A final attempt to subdue the island started on 10 October with a series of concentrated attacks. However, by that time Malta was well armed and the restrictions on fuel and ammunition had been lifted. Hordes of Spitfires engaged the Ju 87s, Ju 88s, Bf 109s, C.200s, Re.2000s and Cant Z.1007s well out at sea and those that managed to penetrate their net suffered heavily at the hands of the anti-aircraft gunners.

Malta's airfields remained operational throughout the Autumn Blitz, during which offensive raids from the Islands were only affected for one single night. During 2,400 sorties the Axis only managed to drop 400 tons of bombs on Malta before giving up completely on 20 October when most Luftwaffe units in Sicily were transferred to other fronts.

Ferrying operations continued, with some 249 additional Spitfires delivered by the time of Operation Train, which flew off the last 31 aircraft of this type to Malta on October 20, 1943 from HMS Furious, six weeks after the capitulation of Italy. In the meantime, however, Malta's Spitfires were to take part in another major operation.

## On the Sicilian Front

Fliegerkorps II had failed in its goal – to annihilate Malta's defences – and after the 10 May debacle German presence in Sicily was considerably reduced. I./JG 3 and II./JG 53 left for the Russian Front while III./JG 53, II/StG 3, III./ZG26 and I./NJG 2 left for Africa; I./KG 54 was transferred to Greece. Some of these units were recalled to Sicily to participate in the equally unsuccessful Autumn Blitz against Malta. It was, however, in May that the Luftwaffe in Sicily began to reorganise itself in defence of that Island.

On 10 May 1943, Geschwaderstab (II./JG 53) was once again based at Comiso, while III./JG 53 remained at Sciacca and I./JG 53 went to Catania. As with the other Lutwaffe fighter units in Sicily reinforcements in the form of the newer Bf 109G-6 (in place of the G-2/4s) were progressing smoothly; however the quality of the pilots left much to be desired.

Allied bombing against Sicilian targets intensified on 18 May, with B-17s escorted by P-39 Lightnings hitting Trapani in the afternoon, with Taranto becoming the main target the following day. Luftwaffe units found that they could only intercept these raids with difficulty, especially as these fast Allied aircraft proved impossible to catch. In retaliation, the Luftwaffe gave clearance, once again, for attacks against Malta by Fw 190 fighter-bombers, escorted by Bf 109s, starting on 21 May. Much publicity was made of that day's victory by Uffz Witt (5./JG 53), who shot down a Spitfire, as the famous photo-journalist Ketelholm happened to be at Comiso, the unit's base at the time.

In an effort to contrast the heavy formations of Allied bombers, Bf 109s were fitted with a 250kg bomb on a ventral shackle with the aim of dropping the bomb from a higher altitude, time fused to detonate amongst the bombers. The effectiveness of this ruse is doubtful, and some German pilots were forced to release the bomb whilst still climbing they were already being harassed by the bombers' escorts.

The loss of the minor islands, as already mentioned above, brought in its wake a series of official 'casualties' within the Luftwaffe structure. Jafü Sizilien Osterkamp was relieved of his duties, and replanced by Gen Maj Adolf Galland, who took over command on 22 June at Comiso. The seasoned flier and commander tried to reorganise the units in Sicily, but could do little to offset the ever-increasing Allied offensive. JG 77 returned on 20 June to Sciacca, whereby it became responsible for the defence of the western sector of Sicily, while JG 53 was assigned the eastern sector.

By early July, Sicilian targets were being hit around the clock, with elements of JG 53 being forced to transfer to a temporary airstrip at Ramacca in an effort to save their precious Bf 109s from being destroyed on the ground. Even such concealed bases began to suffer heavy bombing, as the unit was forced to move once more to Trapani on 6 July. Three days later, Galland was summoned to Berlin to report on the situation in Sicily.

With the offensive in full swing the Luftwaffe in Sicily was practically overwhelmed; the following day marked the total breakdown of German forces on that Island, with lines of communication practically severed between bases and the Headquarters at Comiso. That same morning, Galland left for Germany, via Rome, where he met Luftflotte II commander von Richtofen to whom he described the situation as "terrible and extremely serious". At 16.30 the Allies had arrived in force, as reconnaissance aircraft sighted an enormous, heavily escorted convoy in the vicinity of Malta. It was the beginning of 'Operation Husky', The Allied invasion of Sicily.

## The "Soft underbelly of Europe"

Early June, apart from Malta's own Spitfire squadrons, which included Nos.126, 185, 229, 249 and 603, hundreds of other Spitfires began to arrive. Their task was to provide top cover to the invasion fleet, which was to take part in the invasion of Sicily, the first step by the Allies to land on mainland Europe. On 3 June 1943, an advanced party from No.322 Wing, that had operated in North Africa, arrived in Malta from Protville, Tunisia, to make arrangements for the

The first Spitfire Mk IX that was delivered to No.185 Squadron, seen at Qrendi airfield(R.J. Caruana Archives)

No.185 Squadron went on the offensive by fitting bombs onto locally manufactured wooden pylons to its Spitfires

The Reggiane Re.2002 appeared in southern Italy literally hours before the invasion of Sicily began. This potent fighter-bomber could do little to counter the vast Allied invasion armada on that fateful day of 10 July 1943

Wing's transfer to the Island.

Fifteen Spitfires of No.81 from Utique (Tunisia) and sixteen examples belonging to No 154 Squadrons from Protville flew into Ta' Qali, Malta, on 4 June; Nos.152, 242 and 252 Squadrons arrived the following day and the whole Wing was then gathered at that airfield. Between June 6 and 8, fighters from the Wing flew at all hours on local familiarisation flights and on 9 June twelve Spitfires scrambled to intercept raiders. The following day 32 Spitfires took part in their first major sweep over Pozzallo, Sicily, eight of them carrying 250lb bombs. However one aircraft crashed on take-off and was completely destroyed by fire.

No.154 Squadron's debut in this theatre consisted of a 35-strong Spitfire escort force accompanying B-25 Mitchells raiding Comiso between 1600 and 1725hrs on 3 July. The following day the unit took part in a late morning raid over Catania escorting B-17s. More escort duties raided Gerbini on July 7 and 8. These raids formed part of the softening up of Sicily in preparation for the landings planned for July 10.

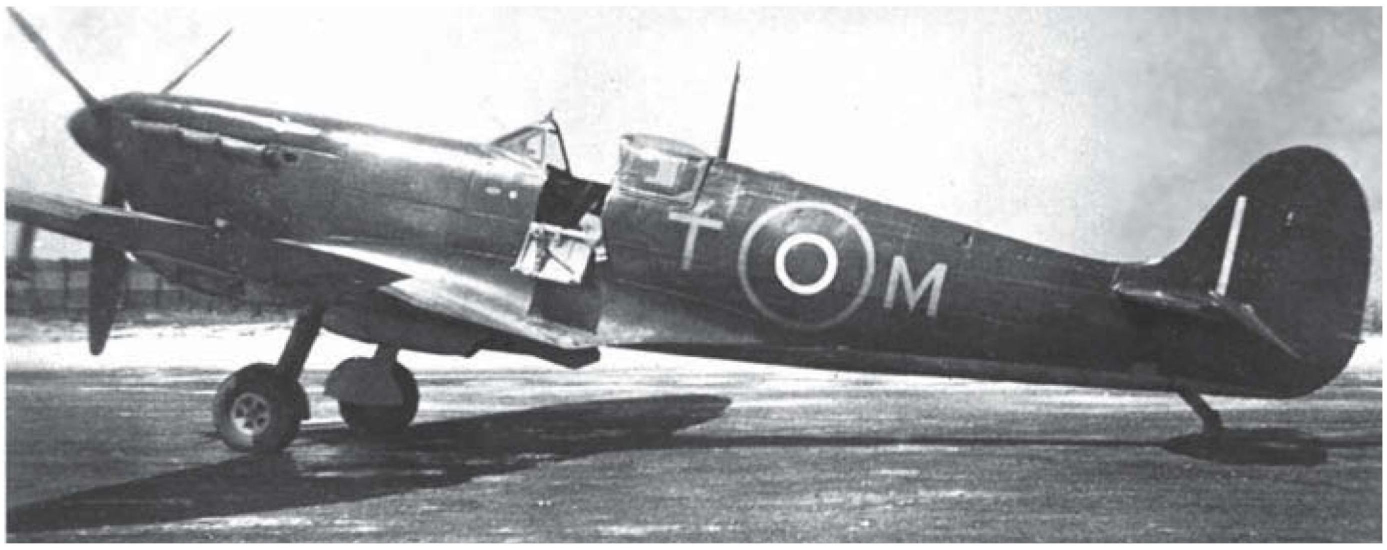
On the eve of the landings these Spitfires had the task of keeping the airspace between Sicily and Malta clear of any enemy aircraft to ensure that the invasion flotilla and gliders arrived safely at their destination. For this purpose, No.322 Wing flew no less than 124 sorties on that day and on 10 July – the day of the invasion – sorties started at 0420hrs clearing any opposing aircraft around the landing zones. At 1245hrs eight Bf 109s were engaged and another such number appeared at 1530hrs. During that day one of the Wing's Spitfires was lost, the aircraft crashing near Gela.

By that time it became important to protect the foothold that the Allies had established. No 154 Spitfires maintained standing patrols over the beaches. On 17 July twelve Spitfires from that squadron were on a patrol over Gerbini and Catania when they were jumped by enemy aircraft. During the ensuing battle five Bf 109s and Macchi C.202s were destroyed or damaged. One of the Spitfires returned to base but crashed on landing after having succumbed to damage inflicted by the enemy fighters.

No.234 Wing arrived in Malta from Mateur (Tunisia) for similar operations using Hal Far as its base. Under the command of Wg Cdr H.S.L. Dundas, the Wing consisted of Nos.43, 72, 93 and 243 Squadrons and arrived between June 9 and 12, with the fifth squadron, No.111, going to Safi. Offensive sweeps, intended to soften up Sicilian targets, started on 15 June. Spitfires from this Wing joined those of No.322 in providing top cover for USAAF B-17s and B-25s raiding Sicilian targets such as Catania, Comiso, Gerbini and Biscari in cooperation with American P-40s. With the landing operations duly covered, the Wing began the move to Comiso on 14 July and by the 20th all aircraft had performed the hop onto the newly conquered island.

A third Wing started to arrive at Luqa on 7 June. No.244 consisting of Nos.92, 145 and 601 Squadrons RAF together with No.1 Squadron SAAF and No.417 Squadron RCAF. More Spitfires continued to pour into Luqa later that month, these belonging to No.40 Squadron SAAF. All these units moved to Pachino in Sicily as from 17 July.

This massive force of Spitfires was assisted by Kittyhawks Mk III of No.3 Squadron, Royal Australian Air Force (RAAF) that had arrived at Ta' Qali on 9 July from Libya. After taking part in the Sicilian invasion campaign, they left for Luqa on 13 July, where they met other aircraft of their type that had arrived at Luqa that same day. Together with the other Kittyhawk units — 250 and 260 Squadrons RAF, and 450 Squadron RAAF —they moved to Pachino in Sicily three days later.




Spitfire Mk V T-M seen at Ta' Qali. This airfield was to be one of the busiest bases during the days preceding and just after Operation Husky

## Yanks in Gozo

Little known is the story of the United States Army Air Force (USAAF) 31st Fighter

Group (FG) that operated from Gozo during ''Operation Husy'. While planning the invasion of Sicily it became evident that Malta's airfields could not possibly accommodate all the fighter aircraft required for such an operation. With the assistance of the US Army Corps of Engineers ('E' Company, 2nd Battalion, 21st Engineer Aviation Regiment), a temporary airfield on the much smaller island of Gozo was constructed, work starting on 8 June, 1943, being completed in the record time of fifteen days!

Thus, after some initial landing and take-off trials, the airfield was considered operational and the 31st FG flew in on 30 June, consisting of 307, 308 and 309 Fighter Squadrons (FS) under the command of Col. F.M. Dean. These squadrons were equipped with Spitfires Mk Vc and were supported by No.3231 Servicing Commando of the RAF. It seems that most of the Spitfires were given a thorough overhaul at Safi and Qrendi before the final hop to Gozo, where RAF engineers commented on their bad state of maintenance mainly due to the total lack of USAAF servicing facilities in North Africa.

On the day of the invasion, these Spitfires gave a very valid contribution to the overall protection of the naval force involved in the landings. Five days later, the whole fighter group moved to newly captured airfields on Sicily including Pachino, followed a week later by No.3231 Servicing Commando.

## D-Day

The first elements of the invasion armada arrived on the Sicilian beaches at 0245 of 10 July, with the American 7th Army landing to the west between Licata and Scoglitti, the British 8th Army landing between Pachino and Syracuse, aided by a full moon. First Luftwaffe elements to catch sight of the invasion force were pilots of II./JG 53 who had taken off from Trapani just after 0600.

While the battle raged on the ground, another battle was being fought in the air, though not to the intensity that had been expected by the Allies. Malta-based RAF Spitfires bagged some twelve enemy aircraft on the first day; their main responsibility had been to keep the sky over the landing zones free from enemy aircraft and that they managed to do quite well. The following day, the air battles became even more intense, as the toll of Axis aircraft nearly tripled.

## Italian Air Units

The most numerically important Italian fighter present in Sicily at the time of the invasion was the Macchi C.202 of the 4º Stormo, the 16º Gruppo, 21º Gruppo and 161º Gruppo. Far more potent in punch was the presence of Bf 109Gs of the 3º and 150º Gruppi. The latter, forming nearly a third of the serviceable fighter aircraft that the Regia Aeronautica possessed in Sicily, were practically annihilated during the first two days of fighting and surviving personnel were recalled to mainland Italy to await the arrival of new aircraft.

An eloquent sign of victory: Spitfires of No.243 Squadron (No.324 Wing) take up residence on a captured Sicilian airfield where dozens of Luftwaffe aircraft were abandoned

In an effort to counter these heavy losses, units flying the new Macchi C.205 were pressed into service, beginning with 10 aircraft, which were transferred to Trapani on 11 July. These came from the 35^6 and 360^ Squdariglie while the other elements of the 51º Stormo remained heavily engaged in defending military installations in Sardenia. These units chalked up some successes over the following days, claiming 10 P-40s shot down to the loss of three Macchis.

Another type pressed into action at short notice was the Re.2002, as 20 examples from the 102º Gruppo and ten from the 101º Gruppo were dispatched to Crotone; Guido Nobili, commander of this Stormo, lost his life on the first day of action, 10 July, in the vicinity of Ragusa. Three days late, a Re.2002 hit HMS Nelson near Syracuse with a 250 kg bomb, forcing the battleship to return to Malta. During subsequent sorties, these aircraft suffered heavy losses, particularly on 19 July, forcing these fighter-bombers to be escorted by Macchi C.202s during subsequent operations.

No sooner had the 362^ Squadriglia become operative on the new Reggiane Re.2005 that it was urgently transferred to Sicily, again to offset the heavy losses. Eight aircraft arrived on 10 July at Sigonella, six of which were immediately destroyed on the ground through Allied bombing, the two surviving aircraft finding refuge in Reggio Calabria four days later. After flying a few sorties at the hands of pilots from the 371^ Squadriglia, even this pair was eventually lost to enemy action.

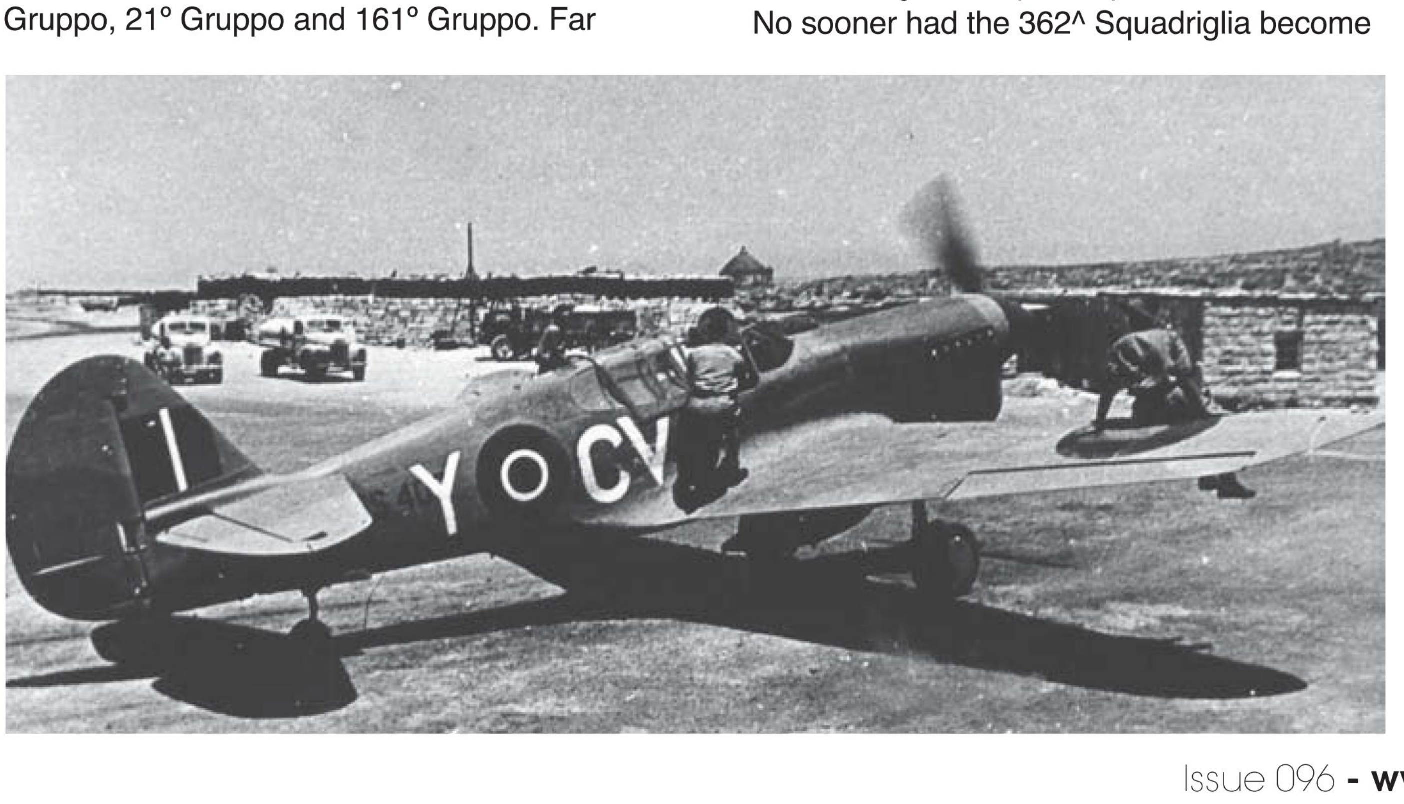
## Epilogue

The conquest of the whole island of Sicily employed forces on both sides for five weeks of thorough fighting, with the first major success being the occupation of Enna on 20 July where Italian personnel surrendered en-masse, three days after General Alexander set up the Allied Military Government in Sicily. The following day came the occupation of Caltagirone with Palermo falling in Allied hands on 22 July. By early August, the Allies had penetrated the Axis line in the North-East of Sicily with British troops entering Catania on the 5th.

On 12 August began the large-scale German evacuation of Sicily, with all Axis resistance on the Island coming to an end four days later with the capture of the Lipari islands that same day.

Although the Sicilian campaign saw the employment of Allied bombers on a heavy scale in the Mediterranean as never before, the fighter element – especially from the airfields of Malta – was most significant as without air superiority troops on the ground would have faced a far more difficult task. One can do no better than quote Lt Alfred Hammer from 4./JG 53, who had this to say on the scene he witnessed at 0623 of 10 July while flying his Bf 109: "…by looking south towards the sea we could see the invasion fleet – the sea was literally black with landing craft… the number was so imposing that after seeing them it was no longer possible to believe that the war might be decided in Germany's favour". ●

**Richard J. Caruana © 2013**



The Reggiane Re.2002 appeared in southern Italy literally hours before the invasion of Sicily began. This potent fighter-bomber could do little to counter the vast Allied invasion armada on that fateful day of 10 July 1943

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

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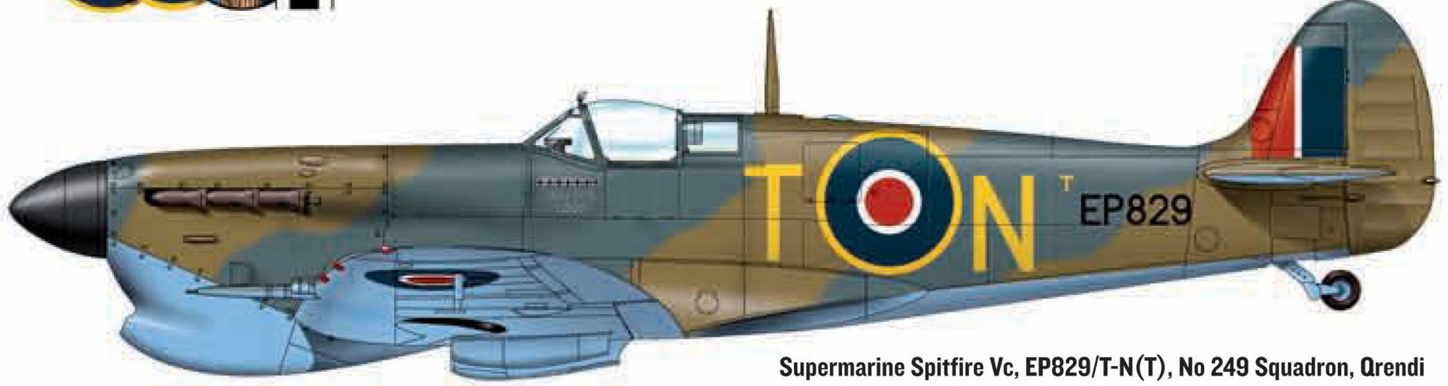
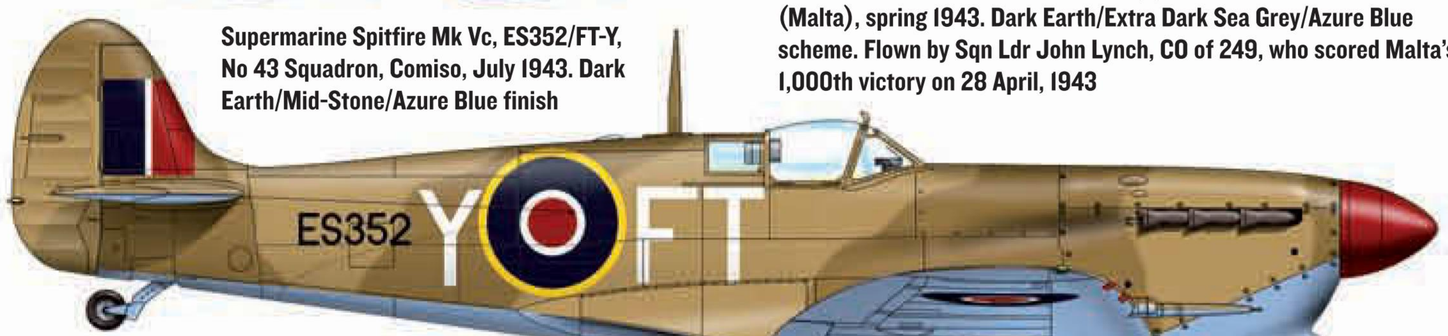



Supermarine Spitfire Vc, EP829/T-N(T), No 249 Squadron, Qrendi (Malta), spring 1943. Dark Earth/Extra Dark Sea Grey/Azure Blue scheme. Flown by Sqn Ldr John Lynch, CO of 249, who scored Malta's 1,000th victory on 28 April, 1943

Supermarine Spitfire Mk Vc, ES352/FT-Y, No 43 Squadron, Comiso, July 1943. Dark Earth/Mid-Stone/Azure Blue finish

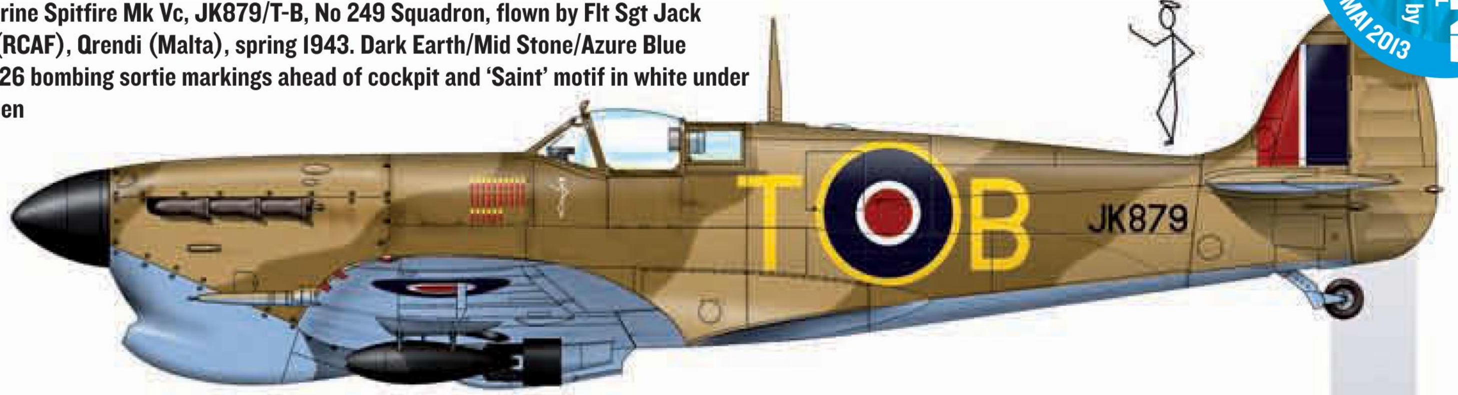



Supermarine Spitfire Mk Vc, EP305/XY-E, No 229 Squadron, Comiso, July 1943. Ocean Grey/Dark Green/Medium Sea Grey finish with underside of port half of fuselage and wings in Night. Codes in yellow with white 'E'. White spinner, Night serialr

Supermarine Spitfire Mk Vc, JK642/SN-P, No 243 Squadron, Hal Far (Malta), July 1943. Dark Earth/Dark Green/Sky finish with red spinner. Codes in white, with 'P' repeated in red on front of engine cowling

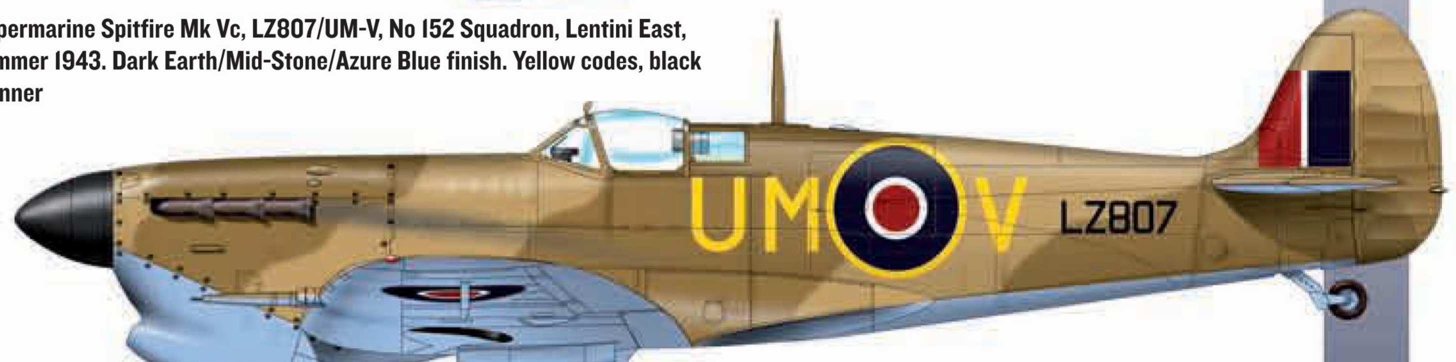
Supermarine Spitfire Mk.Vb, EP436/V-S, No 1435 Squadron, Safi (Malta), summer 1943. Dark Earth/Mid Stone/Azure Blue scheme. Night spinner and white codes

Supermarine Spitfire Mk Vc, JK879/T-B, No 249 Squadron, flown by Flt Sgt Jack Hughes (RCAF), Qrendi (Malta), spring 1943. Dark Earth/Mid Stone/Azure Blue scheme. 26 bombing sortie markings ahead of cockpit and 'Saint' motif in white under windscreen

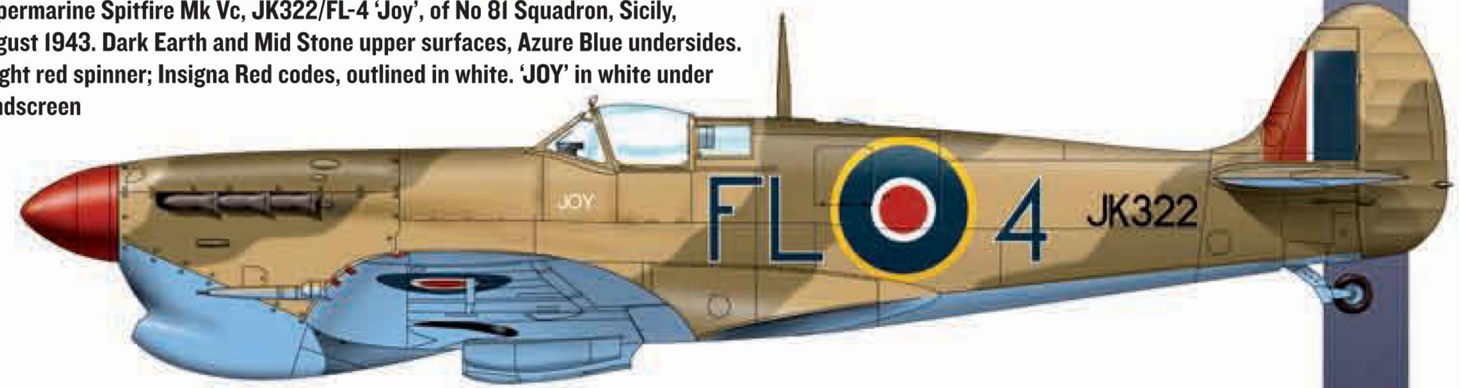



Supermarine Spitfire Mk Vc, AR560/JM-T, flown by Wg Cdr John Thompson, OC Luqa Wing (Malta), late spring 1943. Dark Earth/Mid-Stone/Azure Blue finish. White pilot's initials on fuselage sides. Night serial. Rank pannent on front fuselage

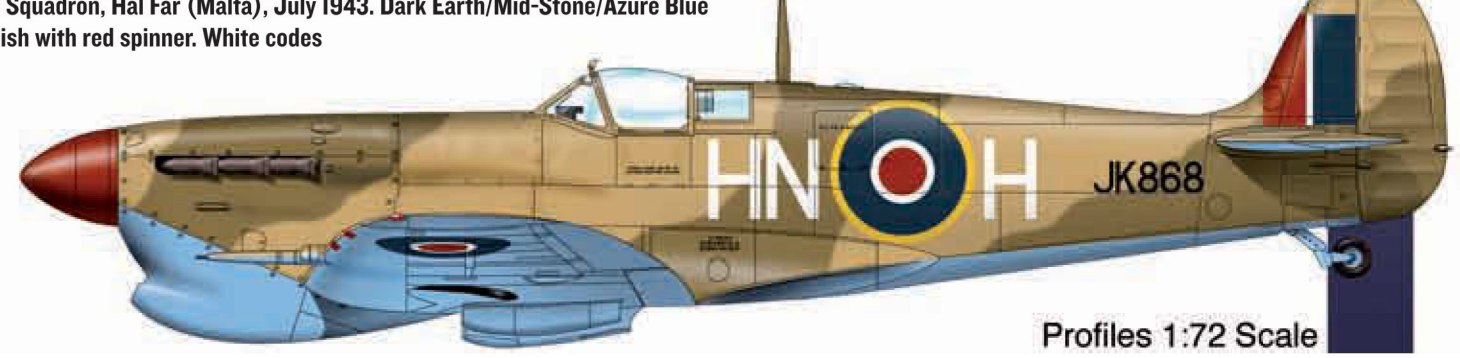
Supermarine Spitfire Mk Vc, LZ807/UM-V, No 152 Squadron, Lentini East, summer 1943. Dark Earth/Mid-Stone/Azure Blue finish. Yellow codes, black spinner




Supermarine Spitfire Mk Vc, JK322/FL-4 'Joy', of No 81 Squadron, Sicily, August 1943. Dark Earth and Mid Stone upper surfaces, Azure Blue undersides. Bright red spinner; Insigna Red codes, outlined in white. 'JOY' in white under windscreen




Supermarine Spitfire Mk Vc, JK868/HN-N, flown by Flt Sgt Raymond Baxter, 93 Squadron, Hal Far (Malta), July 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. White codes

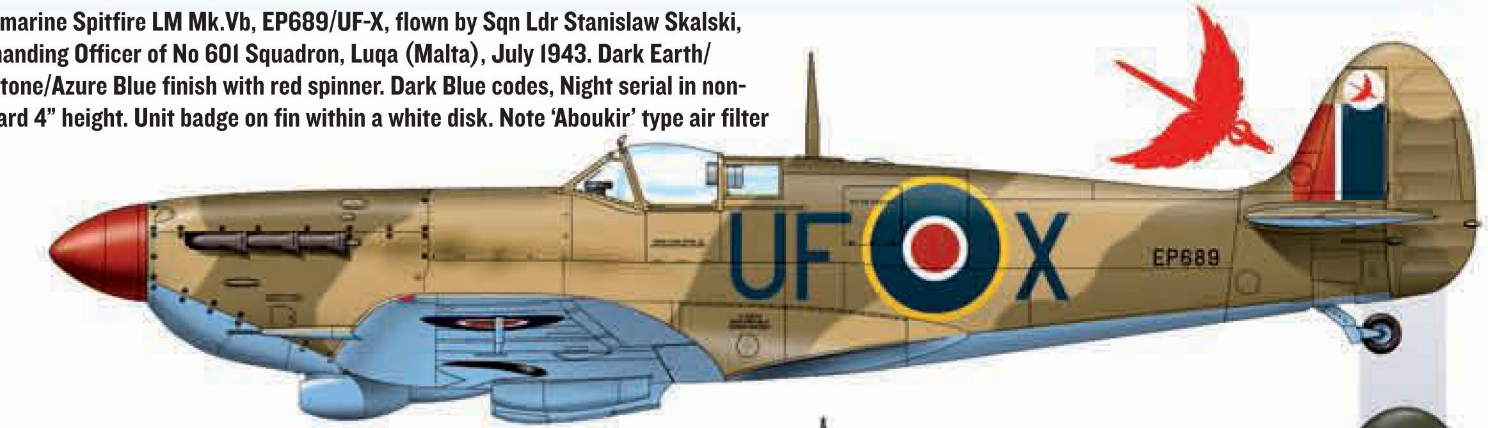



Profiles 1:72 Scale

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

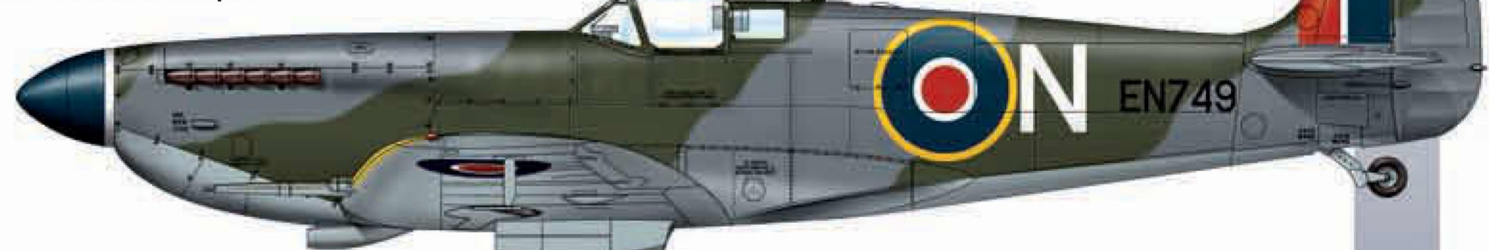
Supermarine Spitfire LF Mk Vb, EP688/WR-R, No 40 (SAAF) Squadron, Luqa (Malta), July 1943. Dark Earth/Mid-Stone/Azure Blue finish. Red spinner, red codes outline in white. SAAF national markings

Supermarine Spitfire LM Mk.Vb, EP689/UF-X, flown by Sqn Ldr Stanislaw Skalski, Commanding Officer of No 601 Squadron, Luqa (Malta), July 1943. Dark Earth/ Mid-Stone/Azure Blue finish with red spinner. Dark Blue codes, Night serial in non-standard 4” height. Unit badge on fin within a white disk. Note ‘Aboukir’ type air filter




Supermarine Spitfire Mk IX, EN199/HT-U, flown by Flt Sgt Edward Artus, No 154 squadron, Ta’ Qali, July 1943. Ocean Grey/Dark Green/Medium Sea Grey finish with white codes

Supermarine Spitfire Mk IX, EN479/N, No 126 Squadron, Safi, June 1943. Dark Earth/Mid Stone/Azure Blue scheme. Spinner is believed to be dark blue with a white backplate




Supermarine Spitfire Mk IX, MH704/GL-H, No 185 Squadron, Hal Far (Malta), July 1943. Ocean Grey/Dark Green/Medium Sea Grey finish with white codes

Supermarine Spitfire Mk IX, MA408/CG, flown by Wg Cdr C.F. Gray, No 322 Wing, Lentini East (Sicily), early August 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. Red initials ‘CG’, outlined in white. Night serial

Supermarine Spitfire Mk IXc, MA454/UM-V, flown by Flt Lt G.T. Baynham, 152 Squadron, Lentini East, summer 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. Codes and serial in Night

Supermarine Spitfire Mk IXc, LZ950/EF-F, No 232 Squadron, Montecorvino (Italy), summer 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. Codes in white, serial in Night

Curtiss Kittyhawk Mk IIA, FL307/CV-I, No 3 Squadron, RAAF, No. 239 Wing, Ta’ Qali, July 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner and white codes; ‘B’ type roundels above wings

Curtiss Kittyhawk Mk III, FR781/OK-K, No. 450 Squadron RAAF, 239 Wing, Ta’ Qali (Malta), July 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner and white codes; note partially concealed serial number. ‘B’ type roundels above wings

Profiles 1:72 Scale

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

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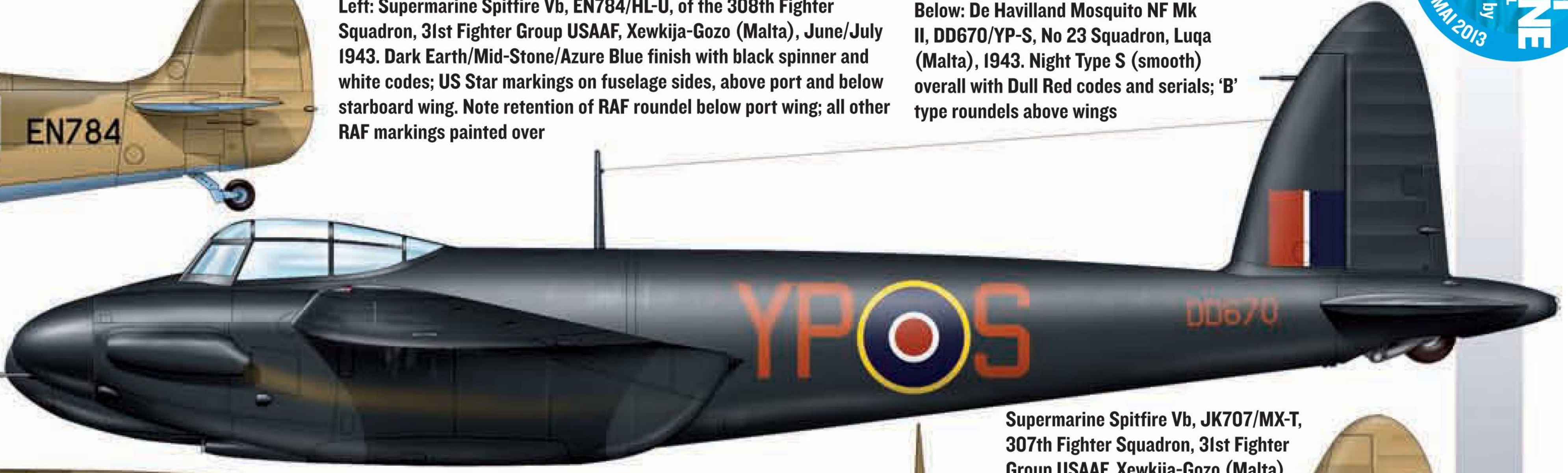
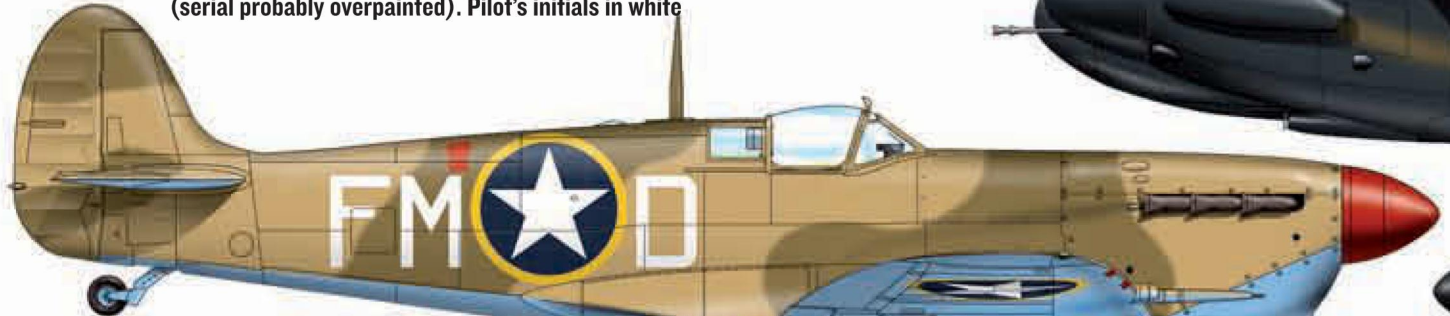
Left: Supermarine Spitfire Vb, EN784/HL-U, of the 308th Fighter Squadron, 31st Fighter Group USAAF, Xewkija-Gozo (Malta), June/July 1943. Dark Earth/Mid-Stone/Azure Blue finish with black spinner and white codes; US Star markings on fuselage sides, above port and below starboard wing. Note retention of RAF roundel below port wing; all other RAF markings painted over




Below: De Havilland Mosquito NF Mk II, DD670/YP-S, No 23 Squadron, Luqa (Malta), 1943. Night Type S (smooth) overall with Dull Red codes and serials; 'B' type roundels above wings

Supermarine Spitfire Vb, flown by Colonel Fred M. Dean, Commander of the 31st Fighter Group based at Xewkija,-Gozo, June-July 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. Codes in white (serial probably overpainted). Pilot's initials in white




Supermarine Spitfire Vb, JK707/MX-T, 307th Fighter Squadron, 31st Fighter Group USAAF, Xewkija-Gozo (Malta), July 1943

Supermarine Spitfire Vb, ES331/MX-F, 307 Fighter Squadron, 31st Fighter Group USAAF, Xewkija-Gozo (Malta), July 1943. Dark Earth/Mid-Stone/Azure Blue finish with red spinner. National markings on fuselage sides, above port and below starboard wings

Above: Fiat CR.42CN, 377ˆ Squadriglia, Palermo-Boccadifalco (Sicily), summer 1942. Black overall with white fuselage band

Macchi C.200 Saetta, 153-3, 153ˆ Squadriglia, 3º Gruppo Autonomo, Chinisia, spring 1943. Verde Oliva Scuro /Grigio Azzurro Chiaro finish

Macchi C.200 Saetta, MM.7688, 384-7, flown by Serg. Zani, 384ˆ Squadriglia, 157º Gruppo Autonomo, Castelvetrano (Sicily), June 1943. Nocciola Chiaro with Verde Oliva Scuro upper surfaces and Grigio Azzurro Chiaro undersides

Macchi C.200 Saetta, 357-6, captured in Sicily, 87th FS, 79th FG, 9th Air Force USAAF, Gerbini, September 1943. Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaro undersides; all Italian markings removed

Macchi C.202 Folgore Serie XII, MM.91815, 84-12 of the 84ˆ Squadriglia, 10° Gruppo, Catania (Sicily), July 1943. Giallo A.S. finish with codes in black and red

Profiles 1:72 Scale

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

Note: A.S. finish refers to Nocciola Chiaro with Verde Oliva Scuro over Grigio Azzurro Chiaro undersides

Macchi C.202 Folgore, MM.7450/90-11, 90^ Squadriglia, 10º Gruppo, 4º Stormo, Catania-San Salvatore (Sicily), July 1943. Finish standard .A.S.

Macchi C.202 Folgore, MM.91975/97-3, 97^ Squadriglia, 9º Gruppo, 4º Stormo, Sigonella (Sicily), July 1943. A.S. finish

Macchi C.202 Folgore, 153-18, 153^ Squadriglia, 3º Gruppo Autonomo, Chinisia (Sicily), June 1943. A.S. finish

Macchi C.202 Folgore, 356-8, 356^ Squadriglia, 21º Gruppo Autonomo, Sciacca (Sicily), July 1943. A.S. finish

Macchi C.202 Folgore Serie III, M.M.9094/372-12, 372^ Squadriglia, 153º Gruppo Autonomo, Sciacca (Sicily), early 1943. A.S. finish

Macchi C.202 Folgore, 374-9, 374^ Squadriglia,153° Gruppo, 53° Stormo, Chinisia (Sicily) 1942. A.S. finish with a top engine cowling that has a different pattern indicating that it comes from a different aircraft

Macchi C.202 Folgore, 374-3, 374^ Squadriglia, 153º Gruppo, 53º Stormo, Palermo-Boccadifalcho (Sicily), July 1943. A.S. finish

Macchi C.205 Veltro, Serie I, 79-6, 79^ Squadriglia , 6° Gruppo, 1° Stormo, Catania (Sicily), summer 1943. A.S. finish

Macchi C.205V Veltro Serie I, 81-5, flown by Pil.Serg. F. Stoppini, 81^ Squadriglia, 6º Gruppo, 1º Stormo, Sicily, summer 1943. A.S. finish

Macchi C.205V Veltro, Serie I, MM.9313/88-7, 88^ Squadriglia, 1º Stormo, Sicily, 1943. A.S. finish

Profiles 1:72 Scale

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

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Macchi C.205V/FR/pa MM9377 (ex 310ˆ Squadriglia Autonoma)/CV-V, captured at Catania (Sicily) and tested by pilots of No 3 Squadron, Royal Australian Air Force, August 1943. A.S. finish with RAF style roundels and fin flashed (of non-standard proportions) painted in the usual positions. Note cameras attached to wing leading edges; another camera was fitted verically behind the pilot's seat

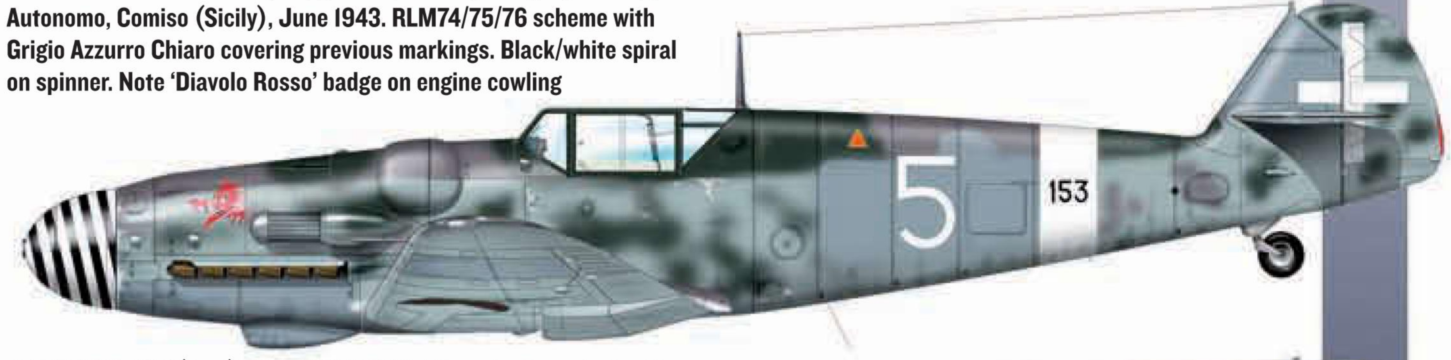
Macchi C.205V Serie III, MM.92204/91-4, 91a Squadriglia (10º Gruppo, 4º Stormo), Sicily, summer 1943. A.S. finish; white rear fuselage band partly overpainted

Reggiane Re.2005 Sagiattario, MM.092346/236-3, 362ˆ Squadriglia, 22° Gruppo, 42° Stormo, Catania-Fontanarossa (Sicily), July 1943. Verde Oliva Scuro uppersurfaces with Grigio Azzurro Chiaro undersides. White fuselage band, serial and quarter of spinner. Codes in red and white. Unit badge on fuselage band, 'Sagittario' logo on fin

Reggiane Re.2005 Sagittario, MM.494/362-4, 362ˆ Squadriglia, 22° Gruppo, 42° Stormo, Sigonella (Sicily) July 1943. Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaaro undersides. White rear fuselage band. Codes in red and white. Reggiane logo on fin

Reggiane Re.2002 Ariete, 239-1, 239ˆ squadriglia, 102º Gruppo Tuffatori, Capo Rizzuto (Sicily), summer 1943. Verde Oliva Scuro/ Grigio Azzurro Chiaro finish

Messerschmitt Bf 109G-6 (Trop), 153-5, 153ˆ Squadriglia, 3° Gruppo Autonomo, Comiso (Sicily), June 1943. RLM74/75/76 scheme with Grigio Azzurro Chiaro covering previous markings. Black/white spiral on spinner. Note 'Diavolo Rosso' badge on engine cowling




Messerschmitt Bf 109G-6 (Trop), 154-4, 154ˆ Squadriglia, 3° Gruppo Autonomo, Comiso (Sicily), July 1943. RLM74/75/76 scheme with German markings painted over with Grigio Azzurro Chiaro

Messerschmitt Bf 109 G-6/R1(Trop), W.Nr 18421/363-7, flown by Tenente Ugo Drago, Commander of 363ˆ Squadriglia, 150° Gruppo, 53º Stormo, Sciacca (Sicily), summer 1943. RLM 74/75/76 scheme with German markings coverd in Grigio Azzurro Chiaro

Messerschmitt Bf 109G-4/R6, 364-5 of 364a Squadriglia, 150° Gruppo, Sciacca (Sicily). RLM 74/75/76 scheme; white wingtips and spinner, fasces markings above and below wings

Messerschmitt Bf.109 G6/R6/Trop, 365a Sq. (150° Gr. Autonomo), Sciacca (Sicily), June 1943. Piloted by Ten. Pil. Giouse Carillo. RLM 74/75/76 scheme with previous German markings painted over in Grigio Azzurro Chiaro

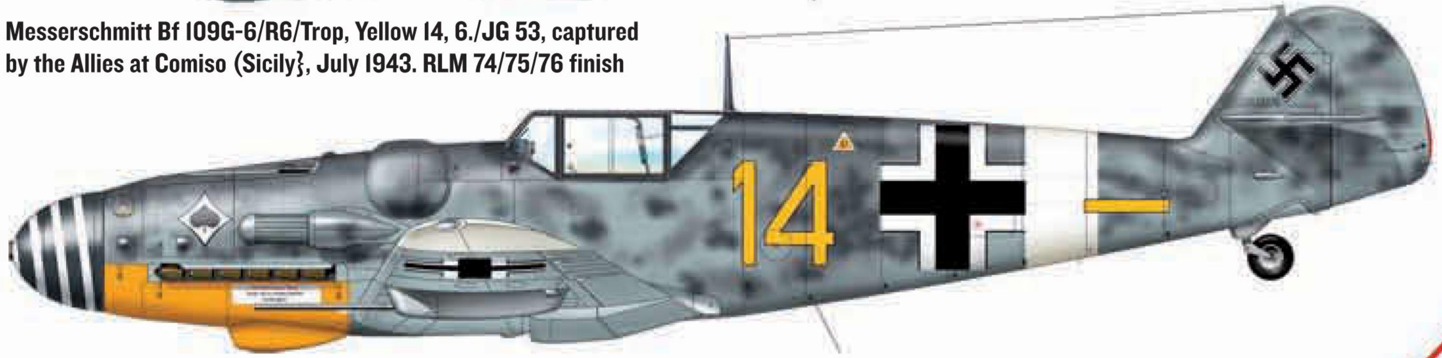
Profiles 1:72 Scale

# The Battle for Sicily – Operation Husky – The Fight for Aerial Supremacy

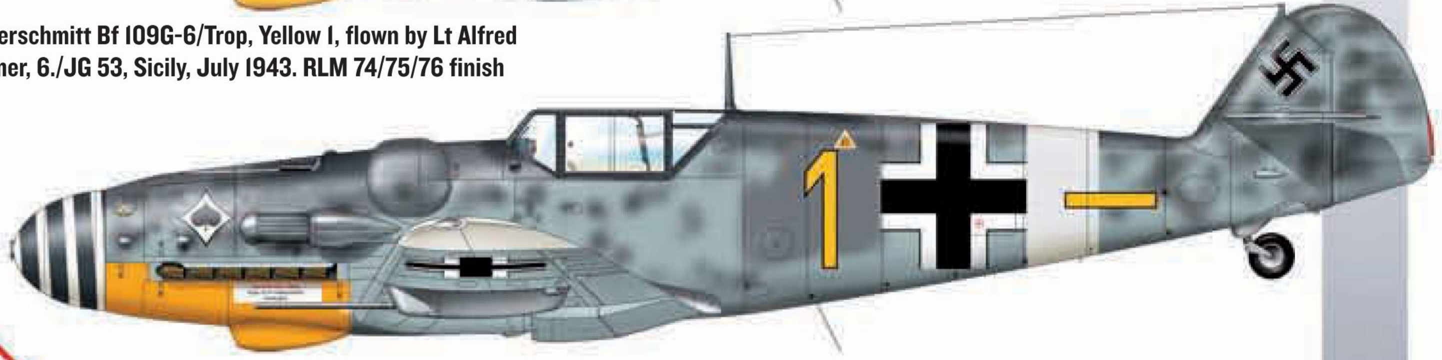
Messerschmitt Bf 109G-4/Trop/R3 flown by Hauptmann Gustav Rodel, Gruppenkommandeur of II./JG 27, Trapani-Milo (Sicily), spring 1943. RLM 78/79 scheme

Messeschmitt Bf 109G-6, White 9, flown by Uffz. Georg Amon, 7./JG 53, Comiso, July 1943. RLM 74/75/76 finish with Gelb 27 ventral cowling panel; RLM 70/white spinner

Messerschmitt Bf 109G-6/R6/Trop, Yellow 14, 6./JG 53, captured by the Allies at Comiso (Sicily}, July 1943. RLM 74/75/76 finish



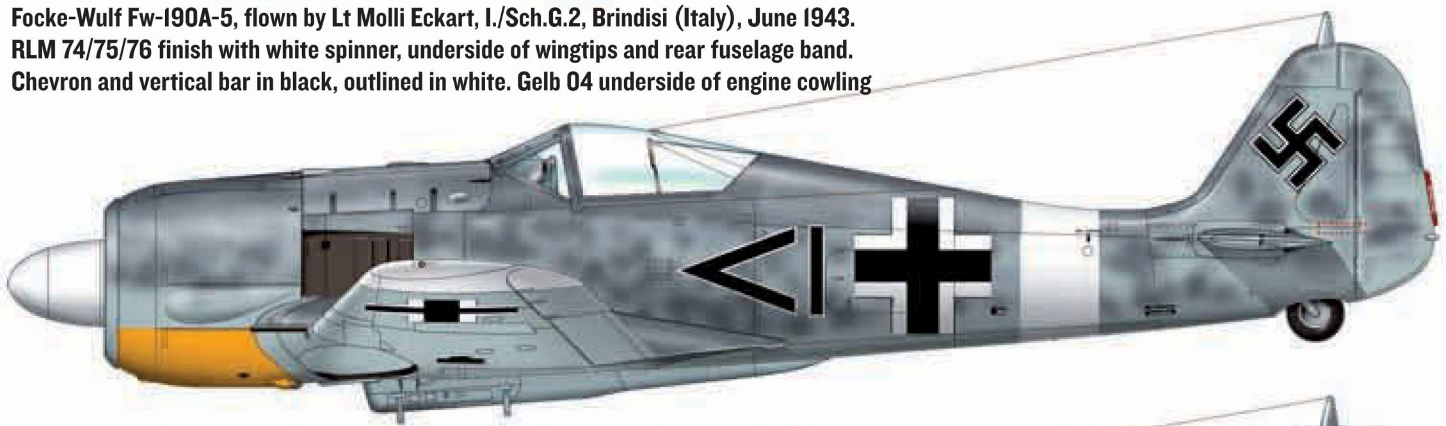

Messerschmitt Bf 109G-6/Trop, Yellow 1, flown by Lt Alfred Hammer, 6./JG 53, Sicily, July 1943. RLM 74/75/76 finish



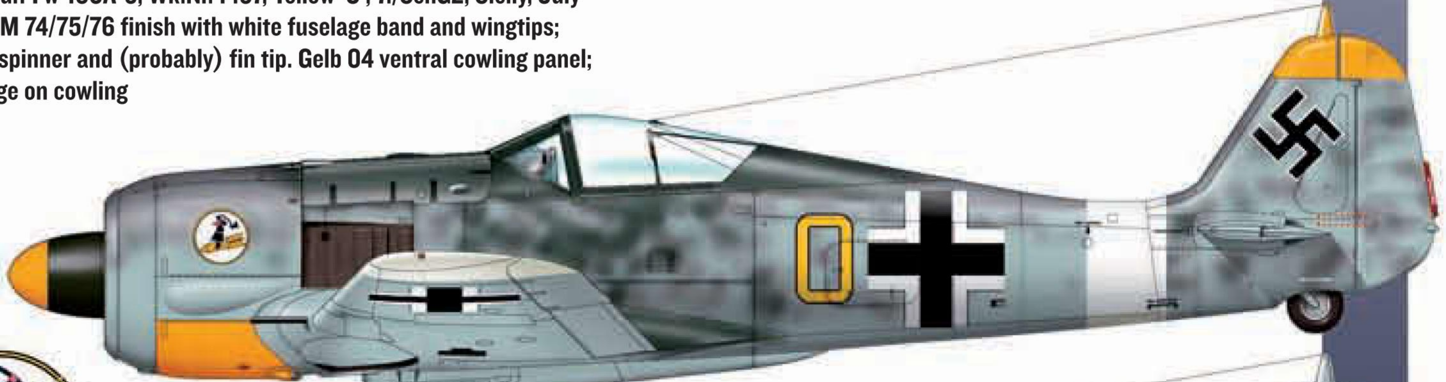
Messerschmitt Bf 109G-6, White 1, flown by Oblt Wilhelm Reinert, Staffelkapitän, I./JG 77 'Herzas', Sicily, August 1943. RLM 74/75/76 finish

Messerschmitt Bf 109G-6, White 12, 7./JG77, Sicily, summer 1943. RLM 74/85/76 finish with white fuselage band; RLM 70/white spinner. Unit badge on cowling and Gruppe badge aft of cockpit

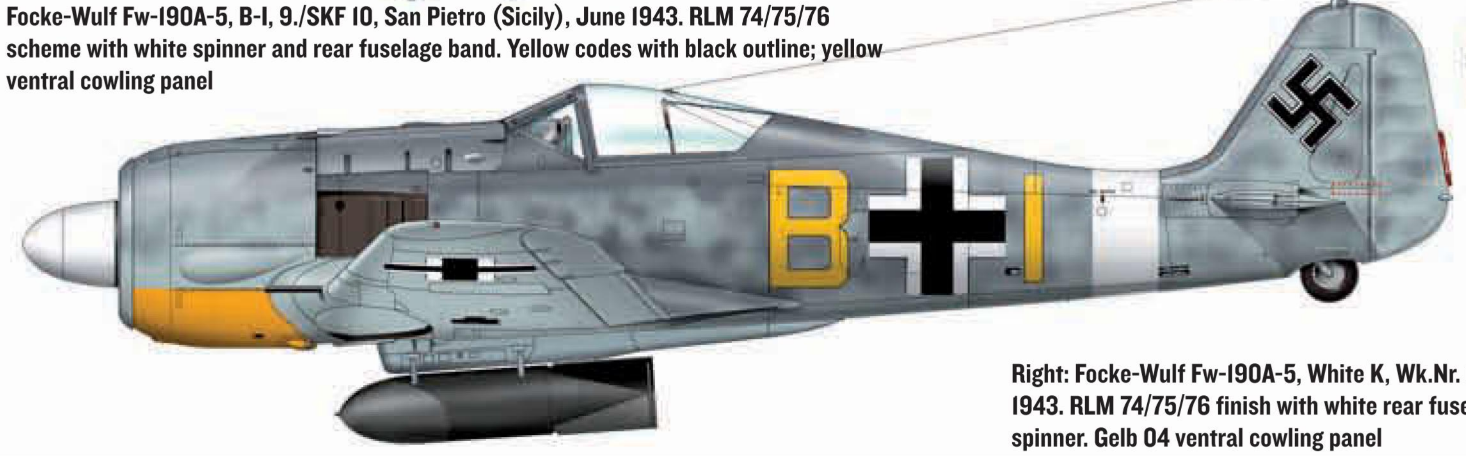
Focke-Wulf Fw-190A-5, flown by Lt Molli Eckart, I./Sch.G.2, Brindisi (Italy), June 1943. RLM 74/75/76 finish with white spinner, underside of wingtips and rear fuselage band. Chevron and vertical bar in black, outlined in white. Gelb 04 underside of engine cowling



Focke-Wulf Fw-190A-5, Wk.Nr. 1437, Yellow 'O', 7./SchG2, Sicily, July 1943. RLM 74/75/76 finish with white fuselage band and wingtips; RLM 70 spinner and (probably) fin tip. Gelb 04 ventral cowling panel; unit badge on cowling

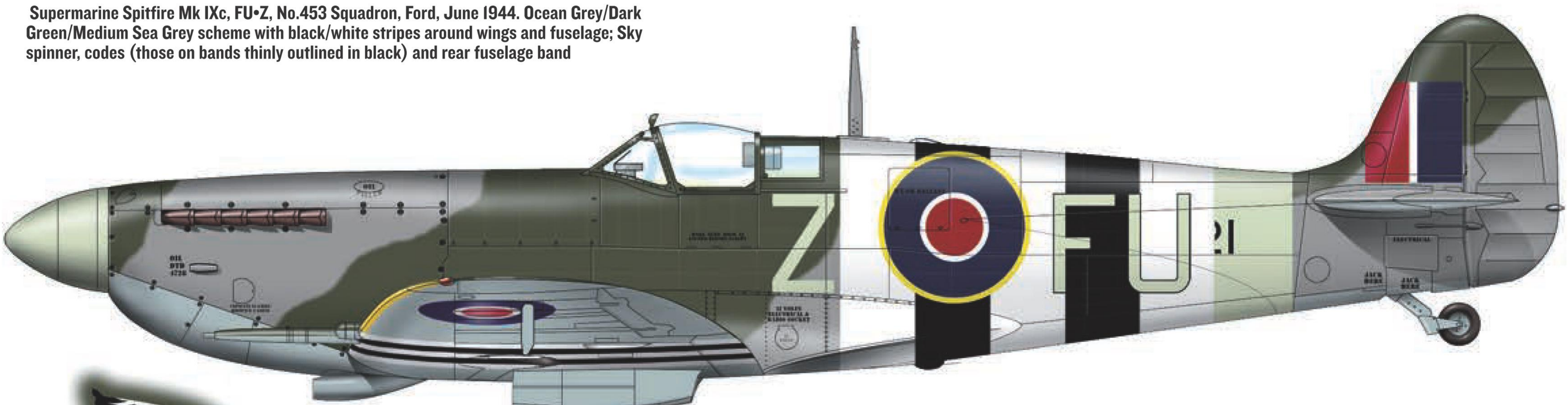


Focke-Wulf Fw-190A-5, B-I, 9./SKF 10, San Pietro (Sicily), June 1943. RLM 74/75/76 scheme with white spinner and rear fuselage band. Yellow codes with black outline; yellow ventral cowling panel

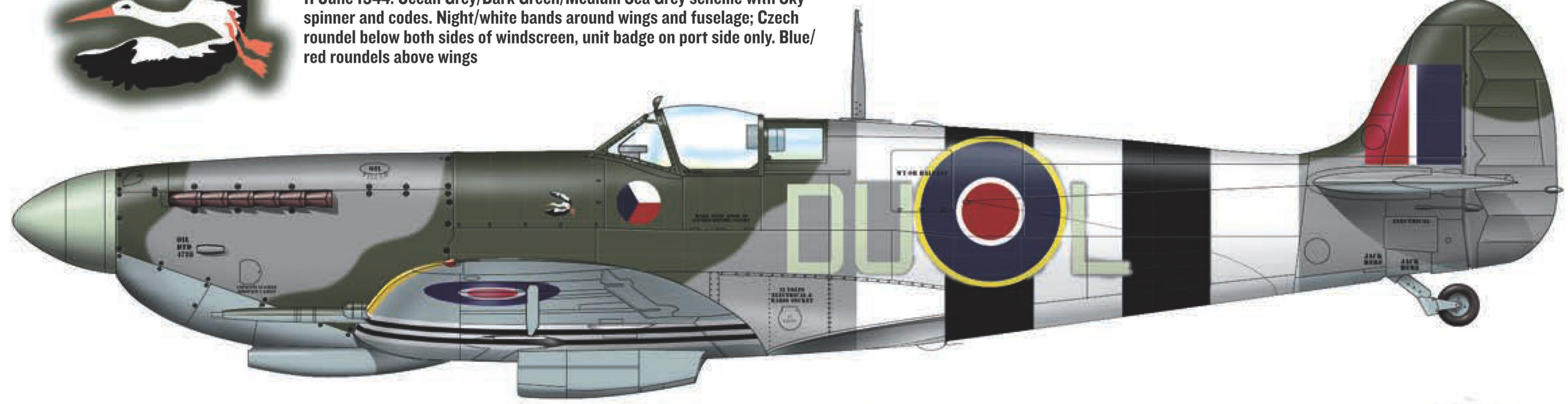


Right: Focke-Wulf Fw-190A-5, White K, Wk.Nr. 1339, 9./SKG10, Ponte Olivio, Sicily, July 1943. RLM 74/75/76 finish with white rear fuselage band and codes; RLM 70/white spinner. Gelb 04 ventral cowling panel

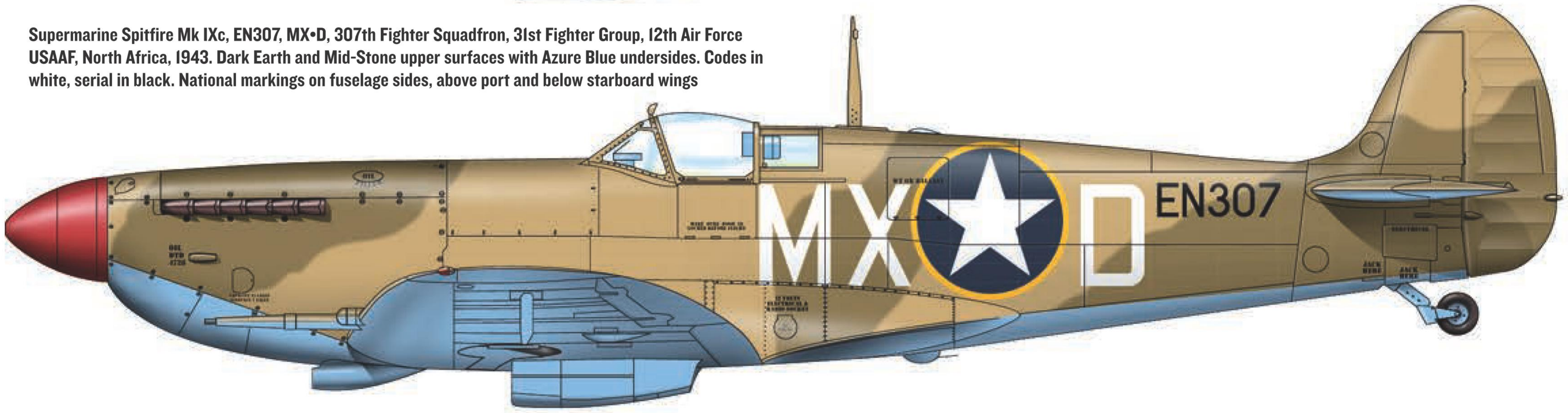
Supermarine Spitfire Mk IXc, FU•Z, No.453 Squadron, Ford, June 1944. Ocean Grey/Dark Green/Medium Sea Grey scheme with black/white stripes around wings and fuselage; Sky spinner, codes (those on bands thinly outlined in black) and rear fuselage band



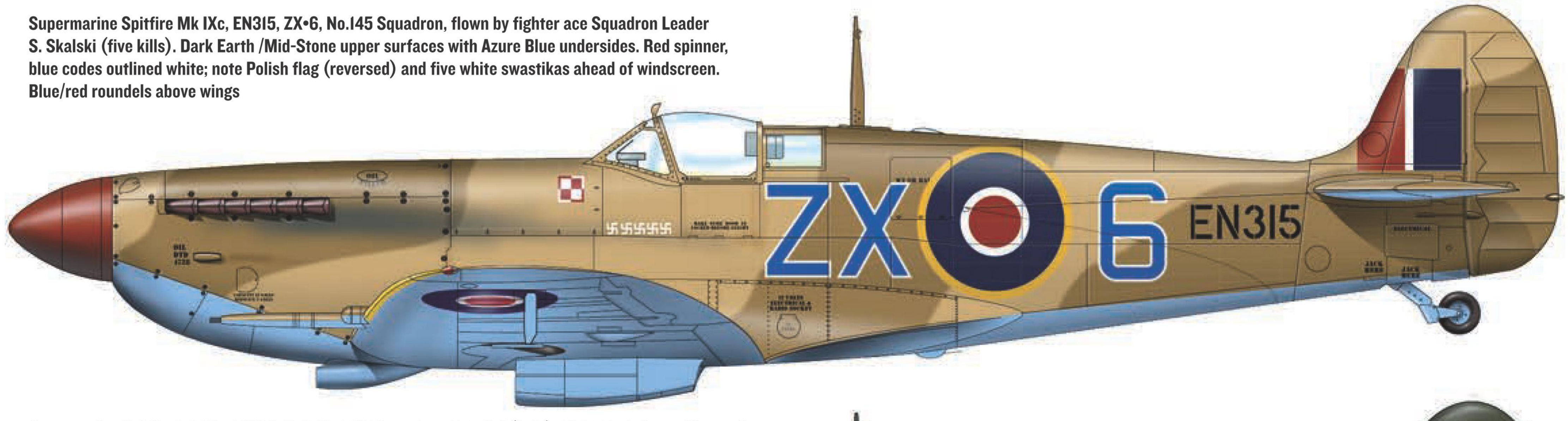
Supermarine Spitfire LF Mk IXc, MJ840 DU•L, No.312 (Czech) Squadron, 11 June 1944. Ocean Grey/Dark Green/Medium Sea Grey scheme with Sky spinner and codes. Night/white bands around wings and fuselage; Czech roundel below both sides of windscreen, unit badge on port side only. Blue/red roundels above wings



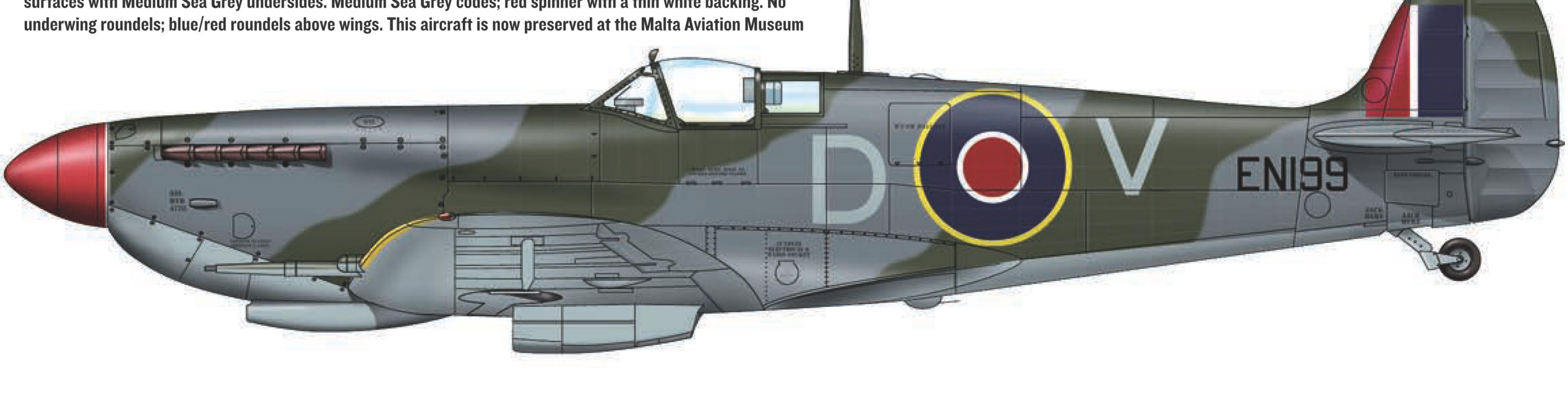

Supermarine Spitfire Mk IXc, EN307, MX•D, 307th Fighter Squadfron, 31st Fighter Group, 12th Air Force USAAF, North Africa, 1943. Dark Earth and Mid-Stone upper surfaces with Azure Blue undersides. Codes in white, serial in black. National markings on fuselage sides, above port and below starboard wings



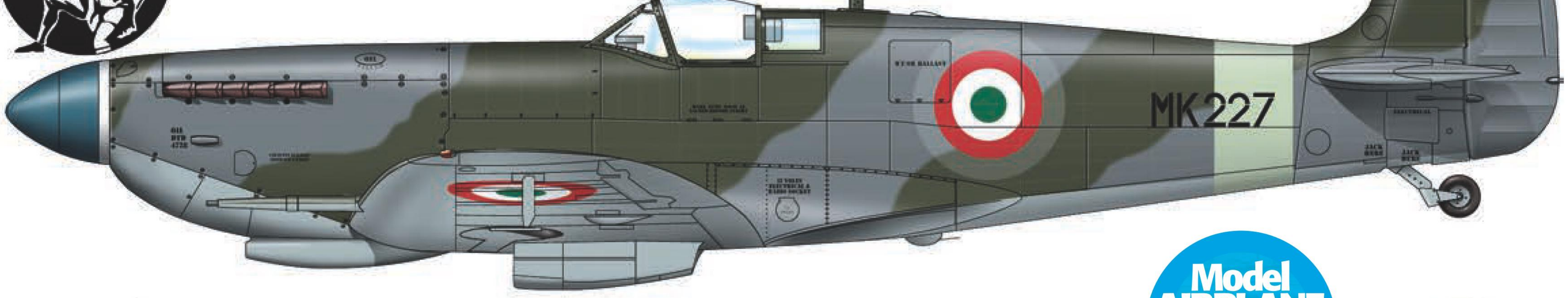

Supermarine Spitfire Mk IXc, EN315, ZX•6, No.145 Squadron, flown by fighter ace Squadron Leader S. Skalski (five kills). Dark Earth /Mid-Stone upper surfaces with Azure Blue undersides. Red spinner, blue codes outlined white; note Polish flag (reversed) and five white swastikas ahead of windscreen. Blue/red roundels above wings




Supermarine Spitfire Mk IXc, EN199, D•V, No.1435 Squadron, Brindisi (Italy), 1944. Dark Green /Ocean Grey upper surfaces with Medium Sea Grey undersides. Medium Sea Grey codes; red spinner with a thin white backing. No underwing roundels; blue/red roundels above wings. This aircraft is now preserved at the Malta Aviation Museum



Supermarine Spitfire Mk IXc, MK227, "White 16", 102º Gruppo, 5º Stormo, Orio al Serio, early 1948. Ocean Grey and Dark Green upper sufaces with Medium Sea Grey undersides. Blue/white spinner, black serial. '16' in white, in small digits, high on fin. Unit badge on fin (both sides). National markings in six positions.

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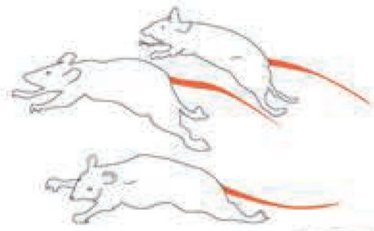
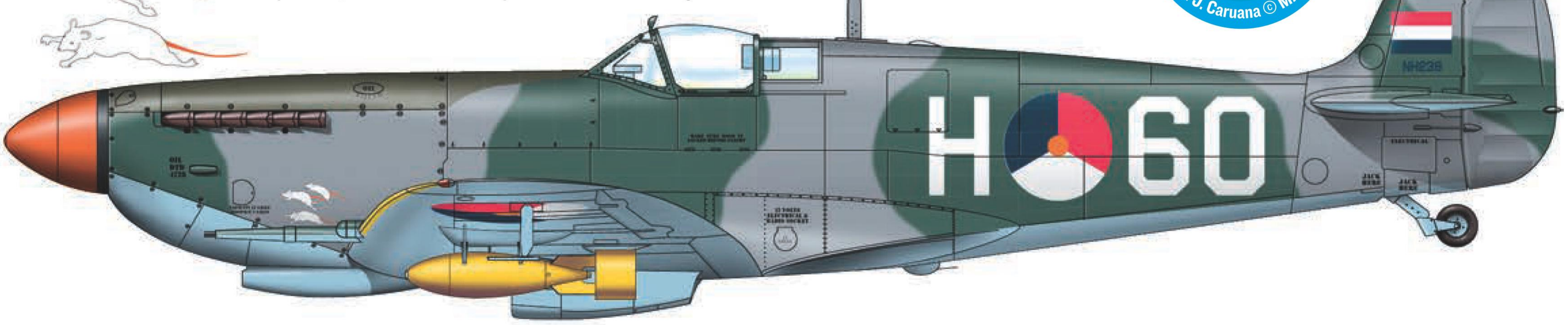
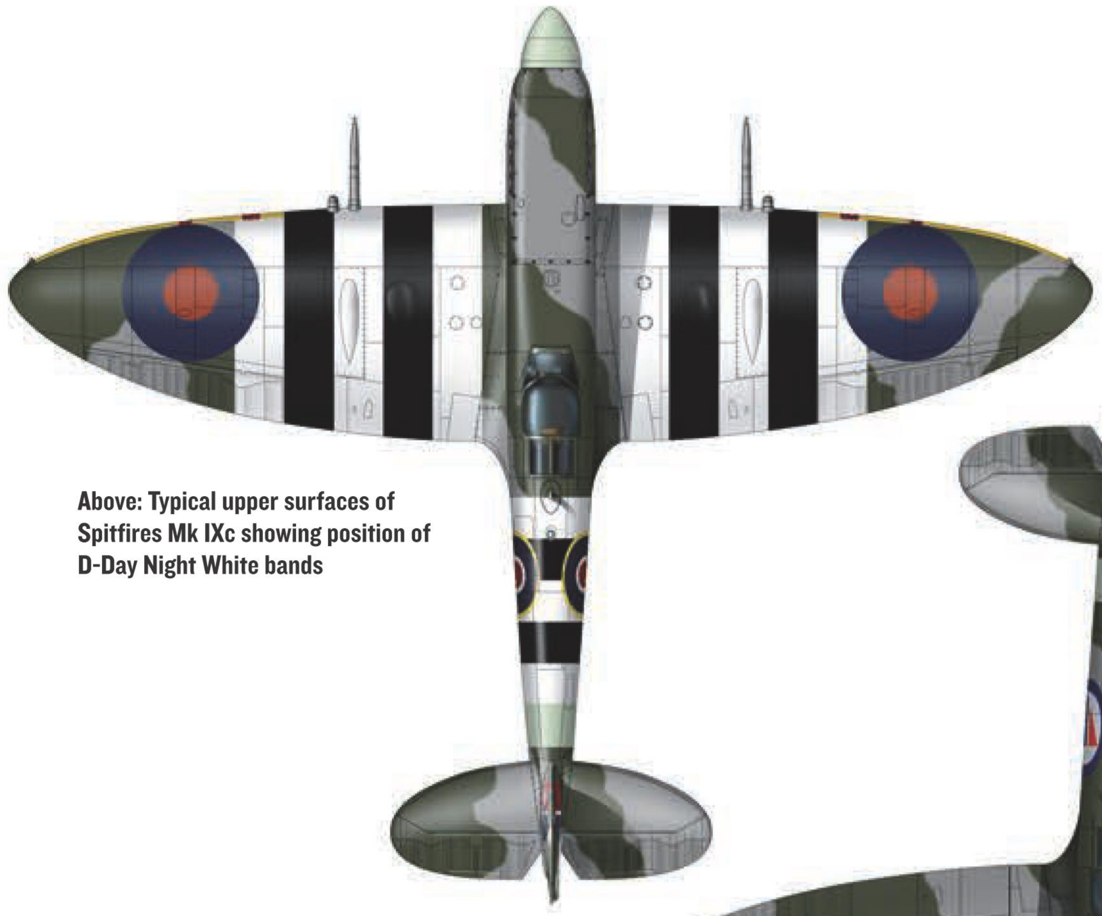
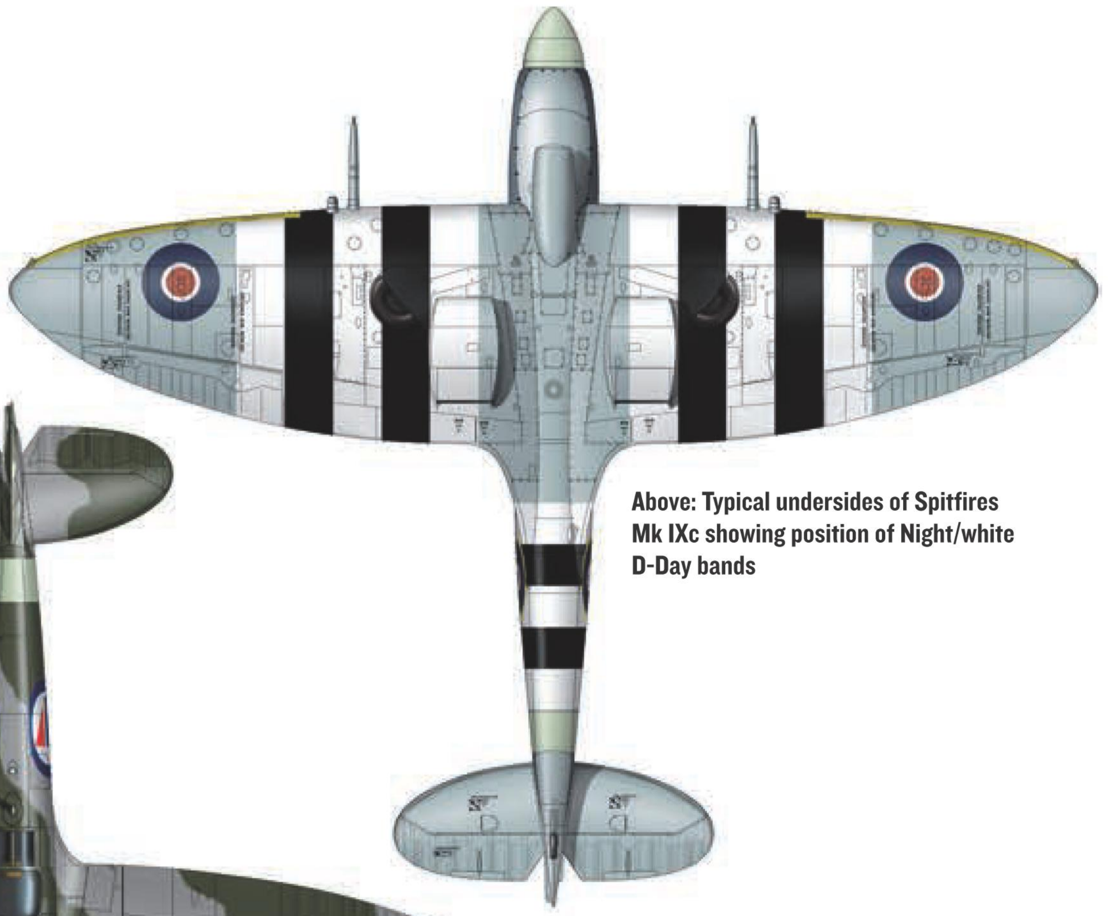


Above: Supermarine Spitfire Mk IXc, NH238, H•60 (ex-MK606), No.322 Squadron, Netherlands Air Force. Light Grey and Jungle Green upper surfaces with Light Blue undersides; orange spinner, white codes. National markings in six positions; Olive Drab anti-dazzle panel. 'Three mice' marking on nose

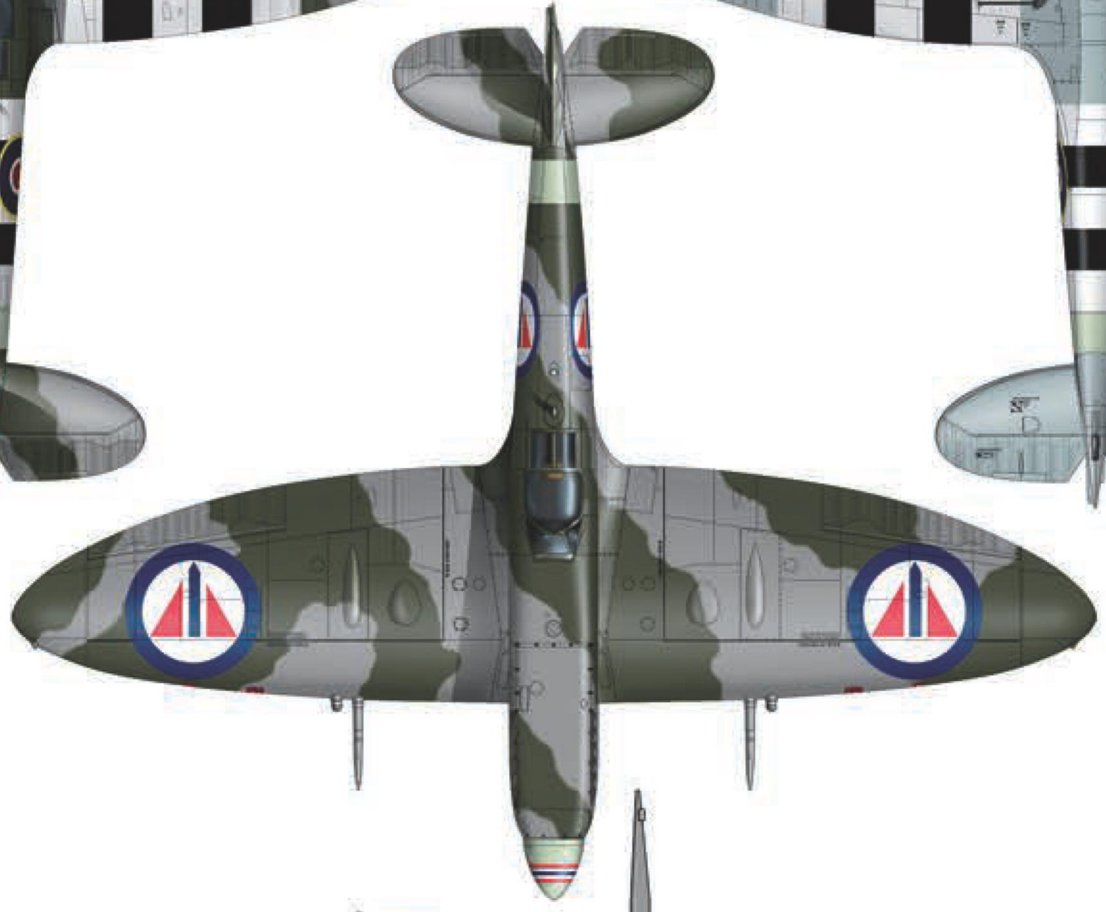


Above: Typical upper surfaces of Spitfires Mk IXc showing position of D-Day Night White bands



Above: Typical undersides of Spitfires Mk IXc showing position of Night/white D-Day bands

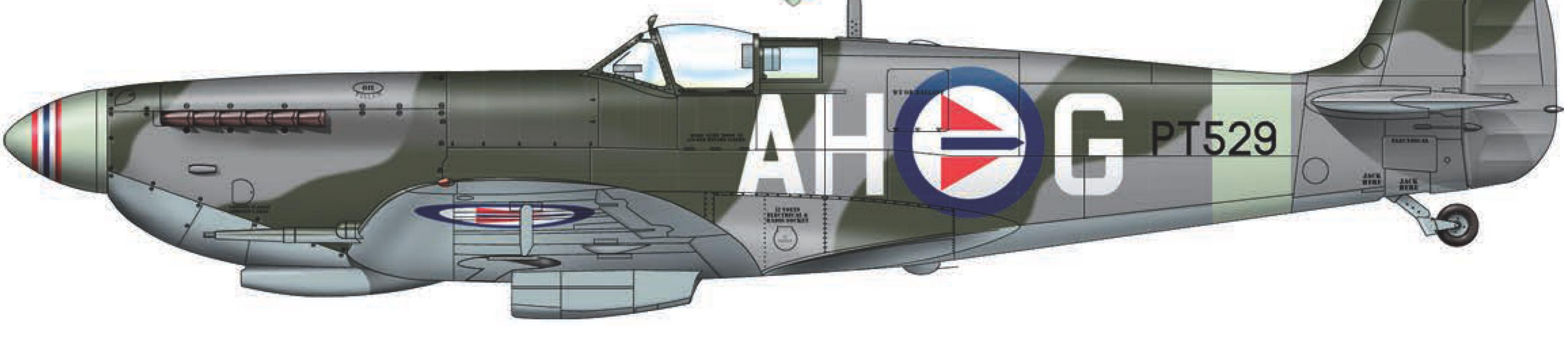


PROFILES 1:48 Scale

0 metres 1 2

0 feet 3 6

Below & Right: Supermarine Spitfire Mk IXc, PT529, AH•G, No.332 Squadron, Norwegian Air Force, Vaernes, 1946. Ocean Grey/Dark Green upper surfaces with Medium Sea Grey undersides; Sky rear fuselage band and spinner, the latter having red/white/blue bands around it. White codes, black serials; national markings in six positions



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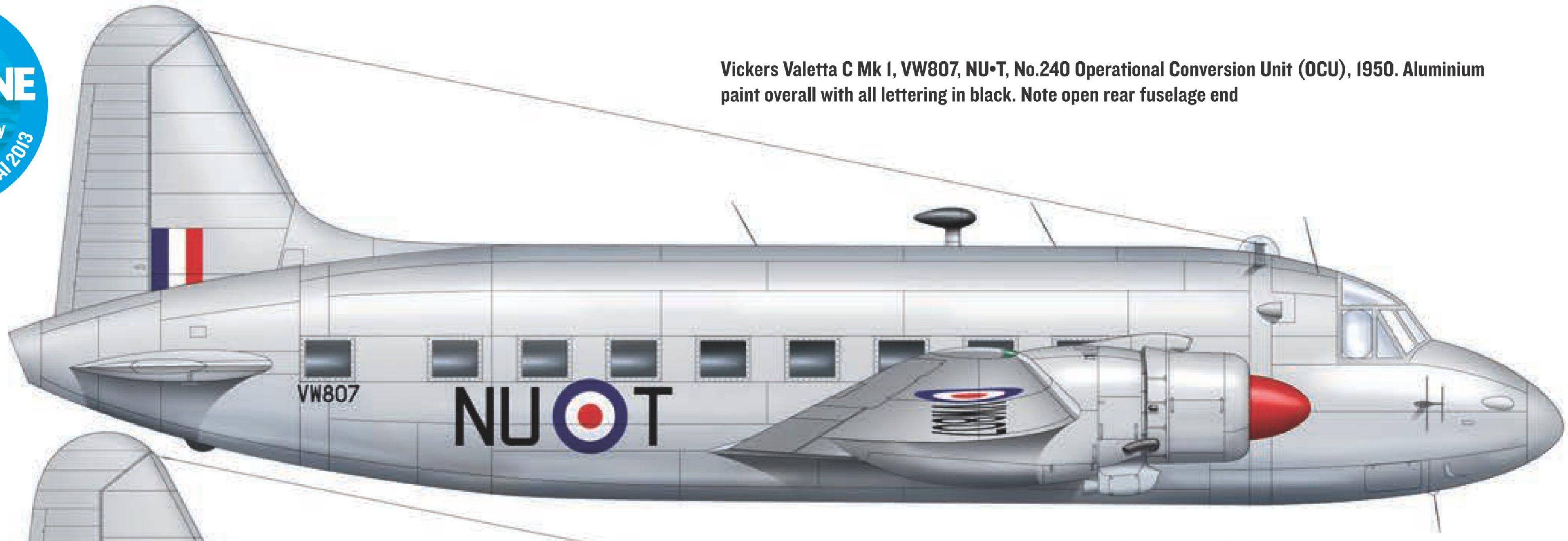
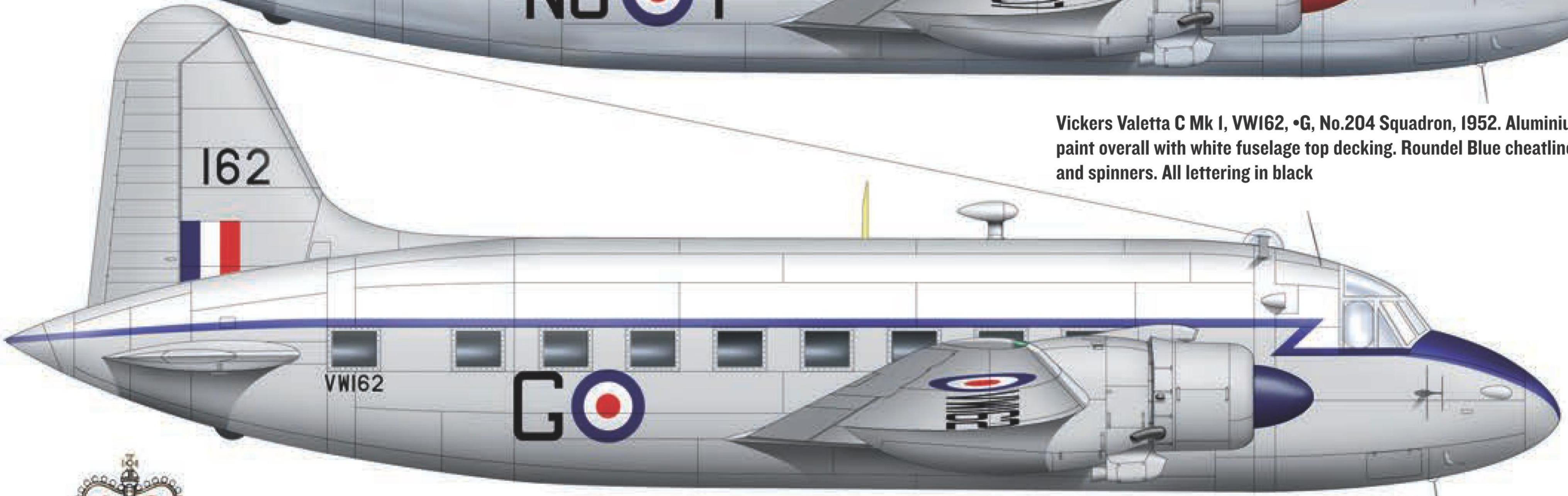
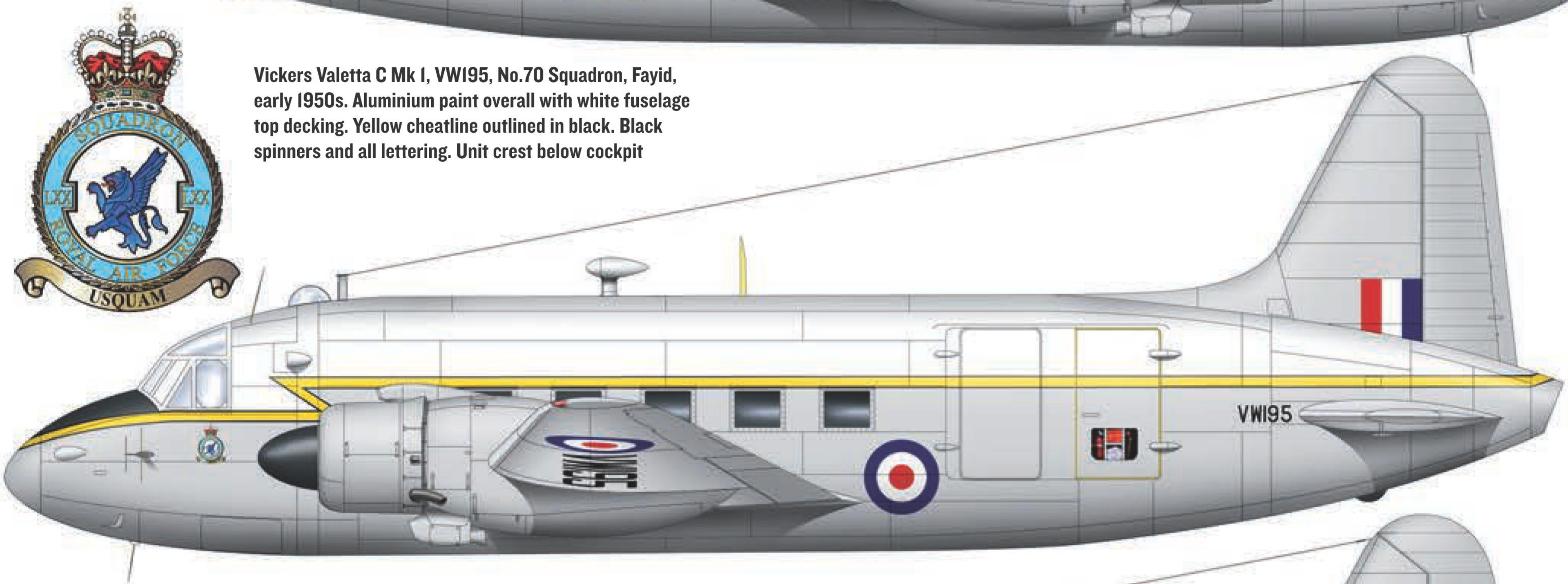
Vickers Valetta C Mk I, VW807, NU•T, No.240 Operational Conversion Unit (OCU), 1950. Aluminium paint overall with all lettering in black. Note open rear fuselage end



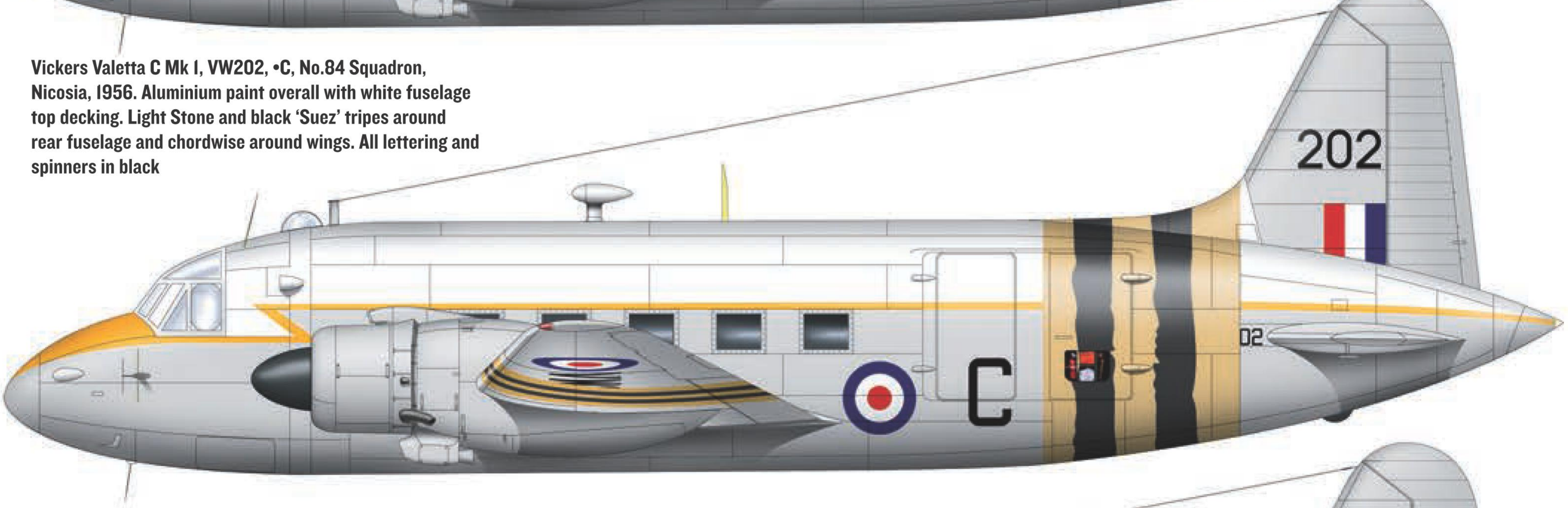

Vickers Valetta C Mk I, VW162, •G, No.204 Squadron, 1952. Aluminium paint overall with white fuselage top decking. Roundel Blue cheatline and spinners. All lettering in black



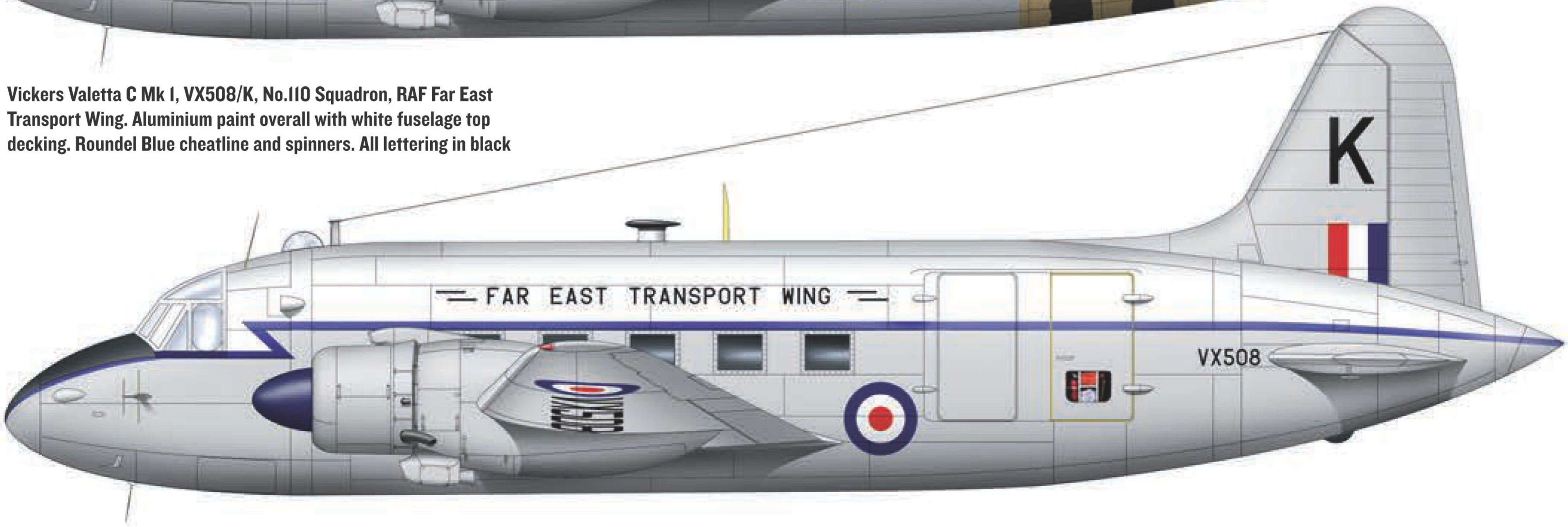

Vickers Valetta C Mk I, VW195, No.70 Squadron, Fayid, early 1950s. Aluminium paint overall with white fuselage top decking. Yellow cheatline outlined in black. Black spinners and all lettering. Unit crest below cockpit



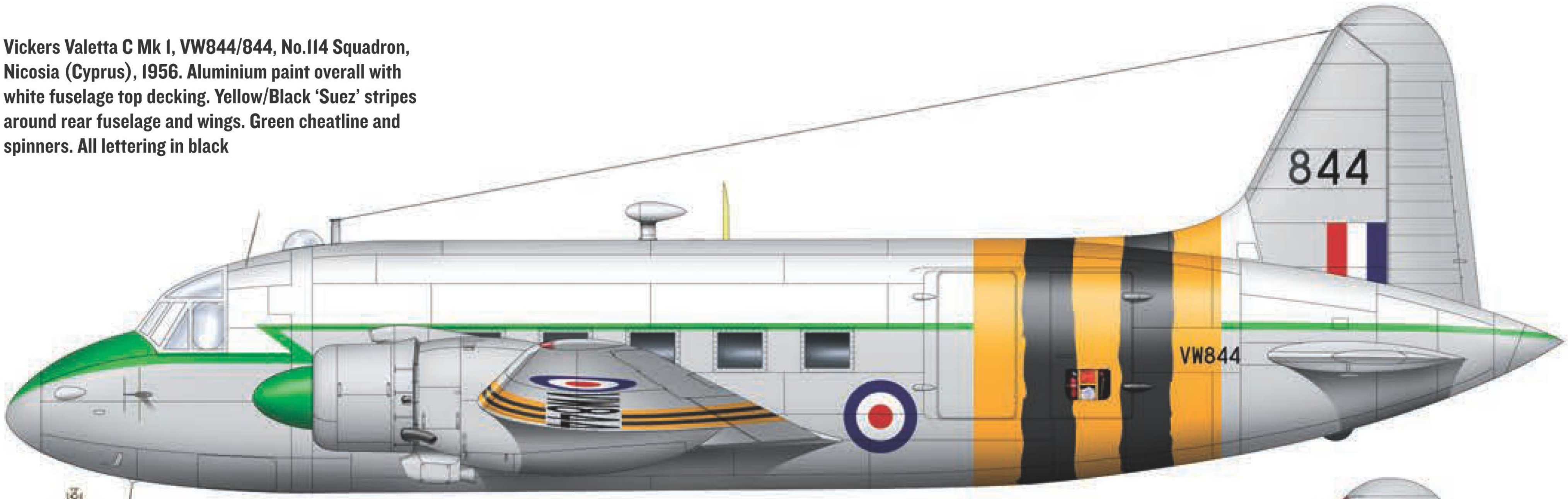

Vickers Valetta C Mk I, VW202, •C, No.84 Squadron, Nicosia, 1956. Aluminium paint overall with white fuselage top decking. Light Stone and black 'Suez' tripes around rear fuselage and chordwise around wings. All lettering and spinners in black



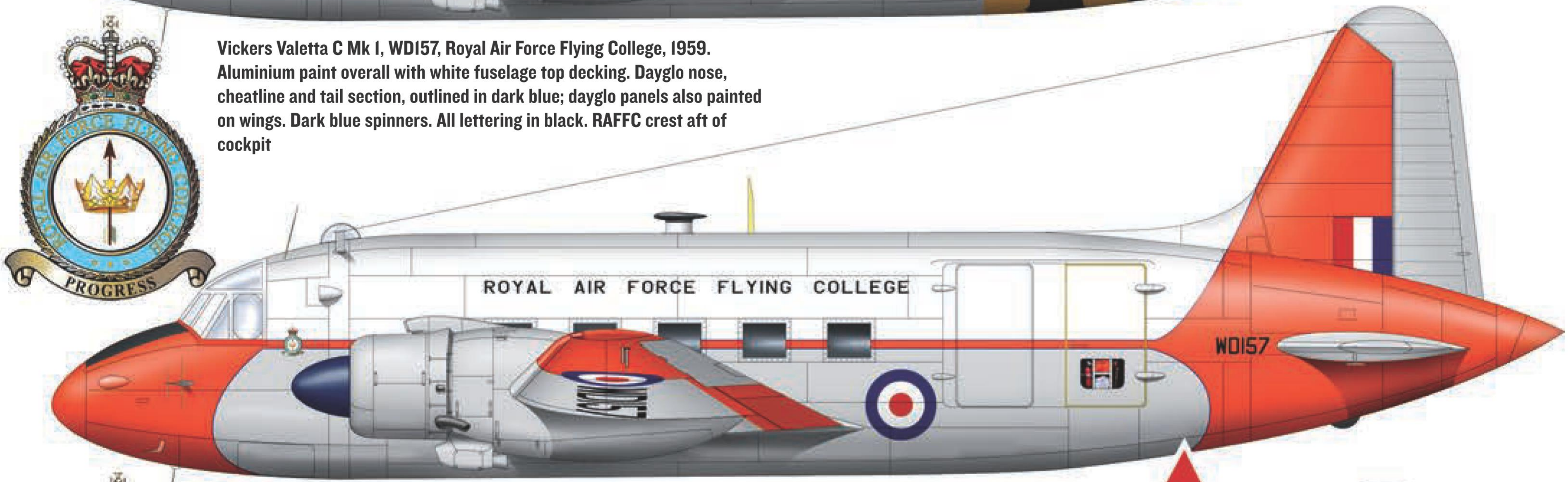

Vickers Valetta C Mk I, VX508/K, No.110 Squadron, RAF Far East Transport Wing. Aluminium paint overall with white fuselage top decking. Roundel Blue cheatline and spinners. All lettering in black



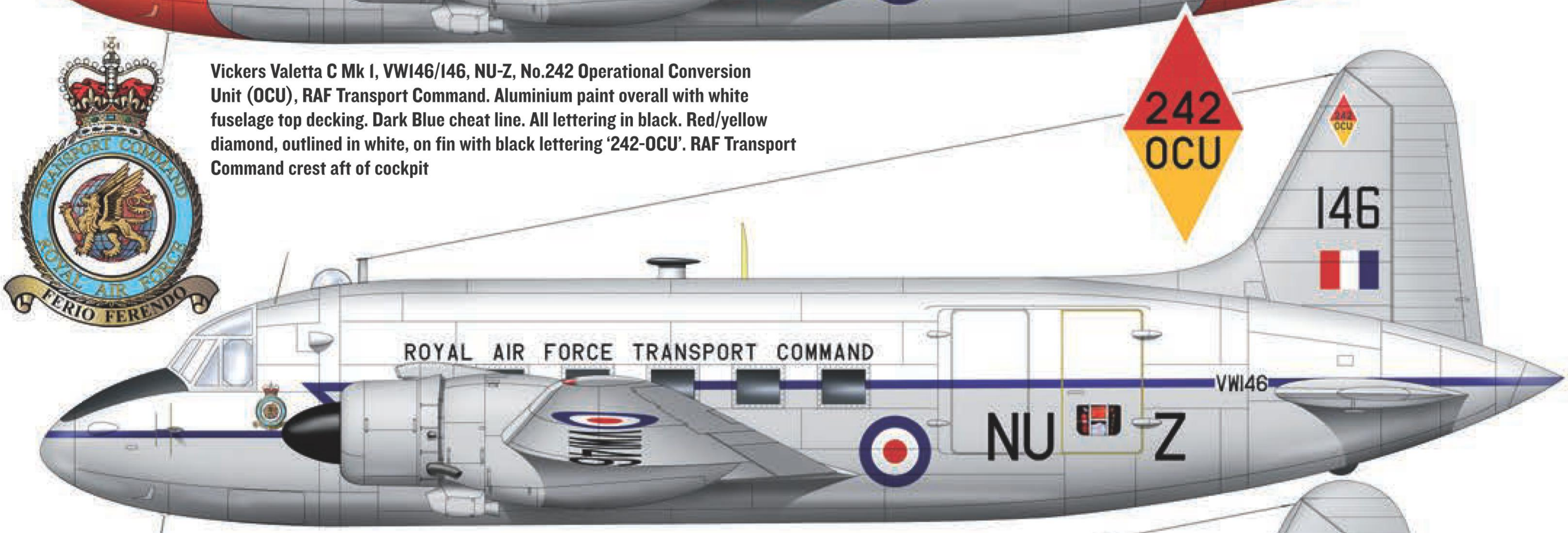
Vickers Valetta C Mk I, VW844/844, No.114 Squadron, Nicosia (Cyprus), 1956. Aluminium paint overall with white fuselage top decking. Yellow/Black 'Suez' stripes around rear fuselage and wings. Green cheatline and spinners. All lettering in black



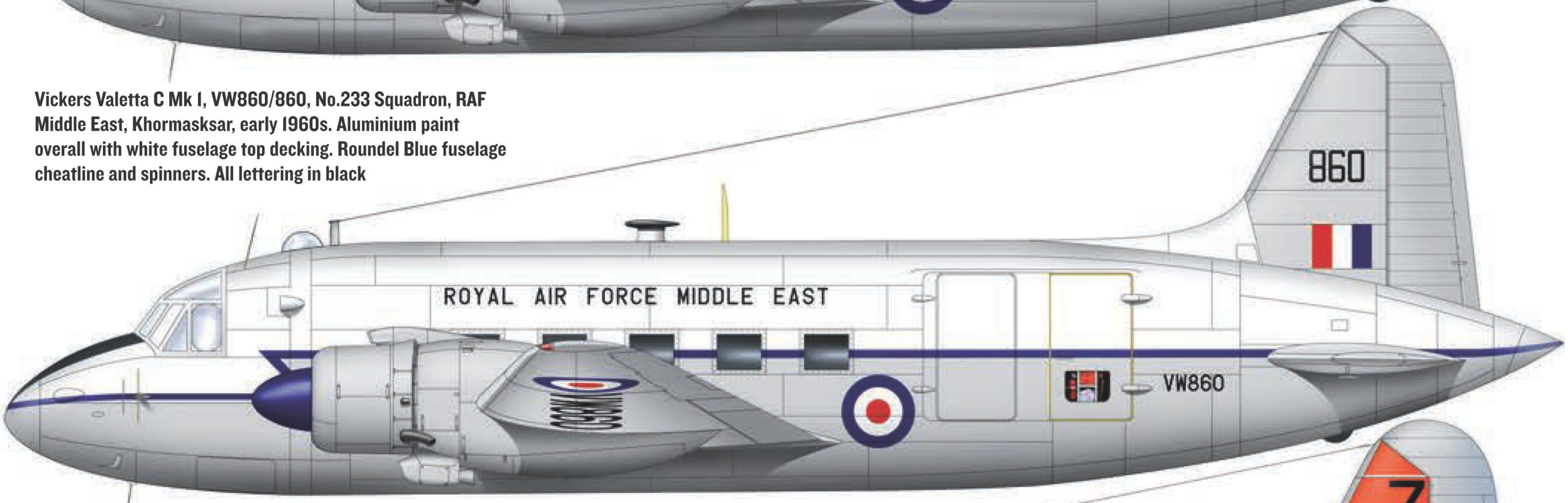

Vickers Valetta C Mk I, WD157, Royal Air Force Flying College, 1959. Aluminium paint overall with white fuselage top decking. Dayglo nose, cheatline and tail section, outlined in dark blue; dayglo panels also painted on wings. Dark blue spinners. All lettering in black. RAFFC crest aft of cockpit



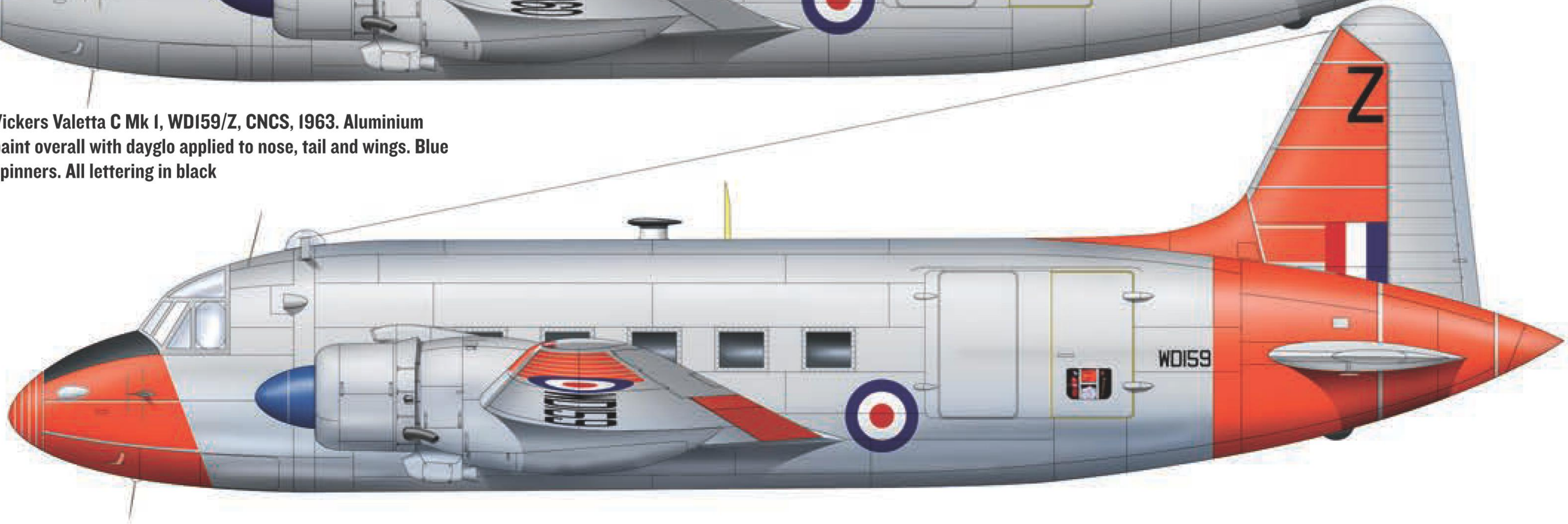

Vickers Valetta C Mk I, VW146/146, NU-Z, No.242 Operational Conversion Unit (OCU), RAF Transport Command. Aluminium paint overall with white fuselage top decking. Dark Blue cheat line. All lettering in black. Red/yellow diamond, outlined in white, on fin with black lettering '242-OCU'. RAF Transport Command crest aft of cockpit



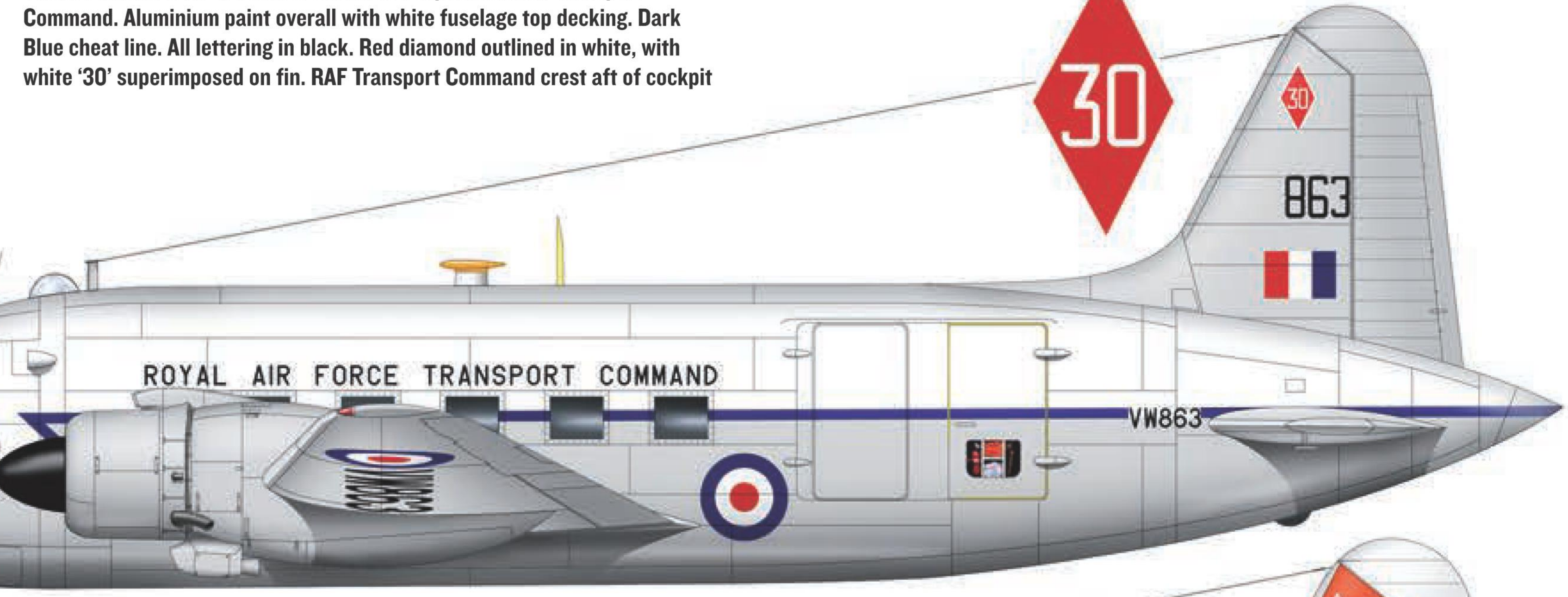

Vickers Valetta C Mk I, VW860/860, No.233 Squadron, RAF Middle East, Khormasksar, early 1960s. Aluminium paint overall with white fuselage top decking. Roundel Blue fuselage cheatline and spinners. All lettering in black



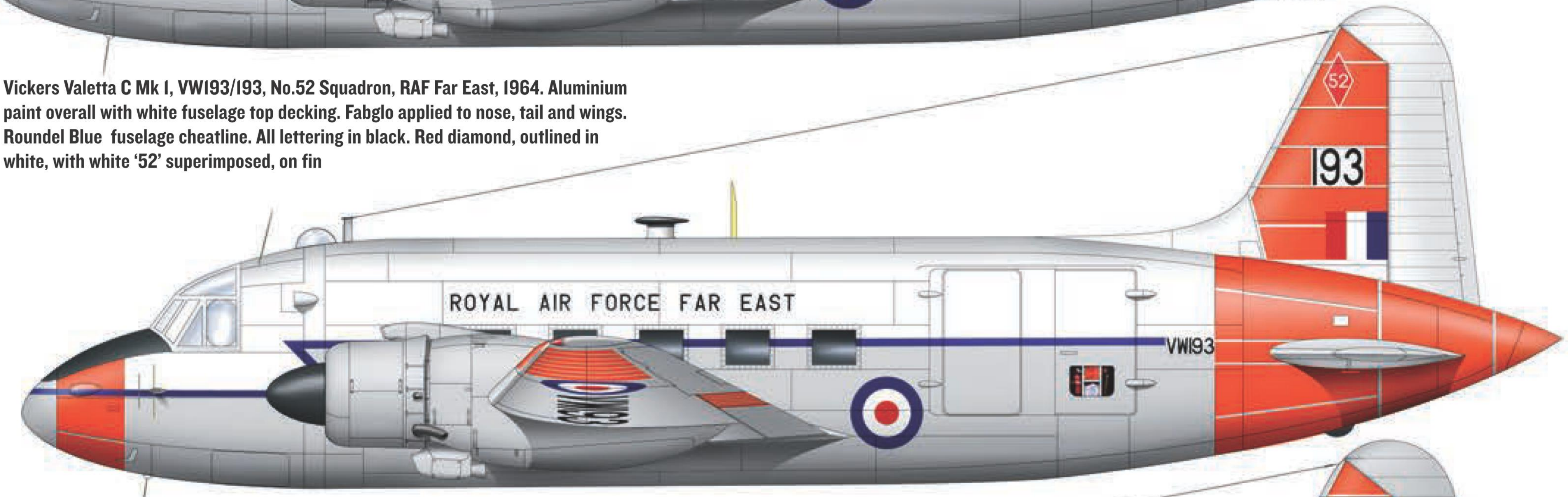

Vickers Valetta C Mk I, WD159/Z, CNCS, 1963. Aluminium paint overall with dayglo applied to nose, tail and wings. Blue spinners. All lettering in black



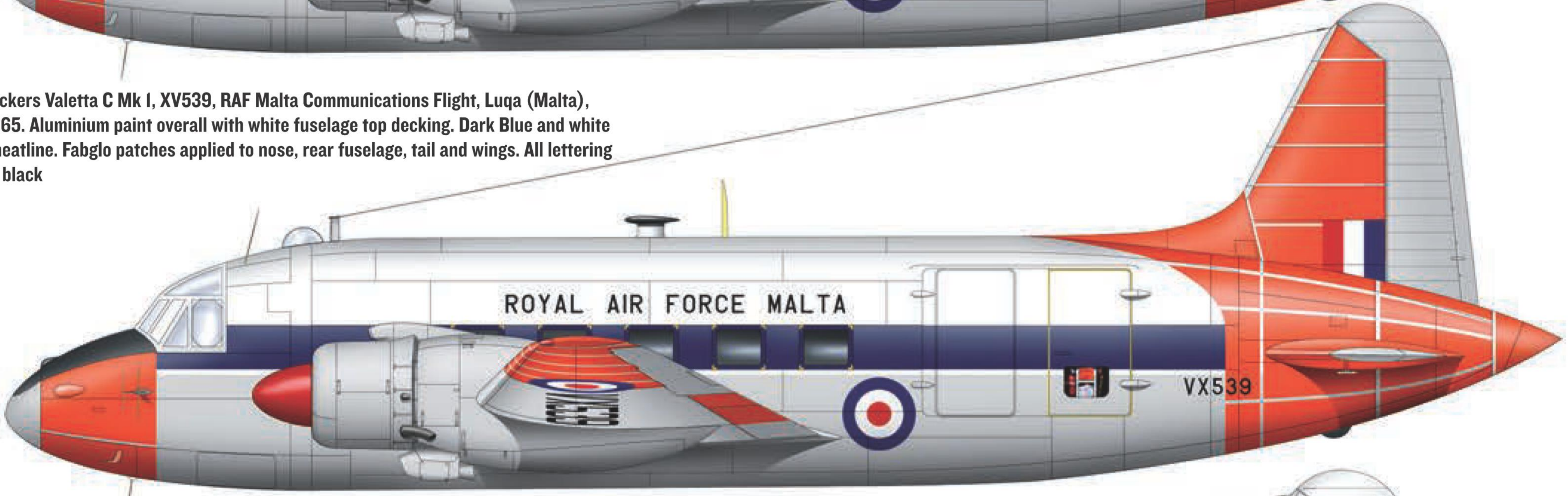
Vickers Valetta C Mk I, VW863/863, No.30 Squadron, RAF Transport Command. Aluminium paint overall with white fuselage top decking. Dark Blue cheat line. All lettering in black. Red diamond outlined in white, with white '30' superimposed on fin. RAF Transport Command crest aft of cockpit




Vickers Valetta C Mk I, VW193/193, No.52 Squadron, RAF Far East, 1964. Aluminium paint overall with white fuselage top decking. Fabglo applied to nose, tail and wings. Roundel Blue fuselage cheatline. All lettering in black. Red diamond, outlined in white, with white '52' superimposed, on fin

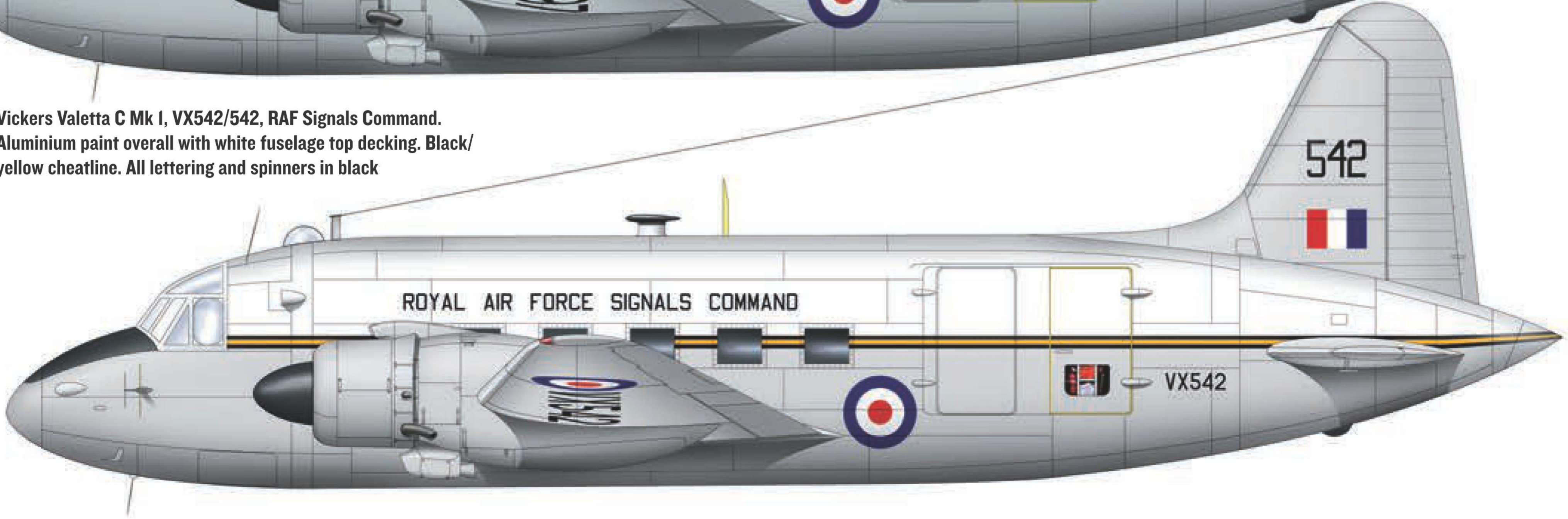



Vickers Valetta C Mk I, XV539, RAF Malta Communications Flight, Luqa (Malta), 1965. Aluminium paint overall with white fuselage top decking. Dark Blue and white cheatline. Fabglo patches applied to nose, rear fuselage, tail and wings. All lettering in black




Vickers Valetta C Mk I, VW197/197, RAF Air Support Command, 1968. Light Aircraft Grey overall with white fuselage top decking. Roundel Blue fuselage cheatline. Spinners and all lettering in black

Vickers Valetta C Mk I, VX542/542, RAF Signals Command. Aluminium paint overall with white fuselage top decking. Black/ yellow cheatline. All lettering and spinners in black



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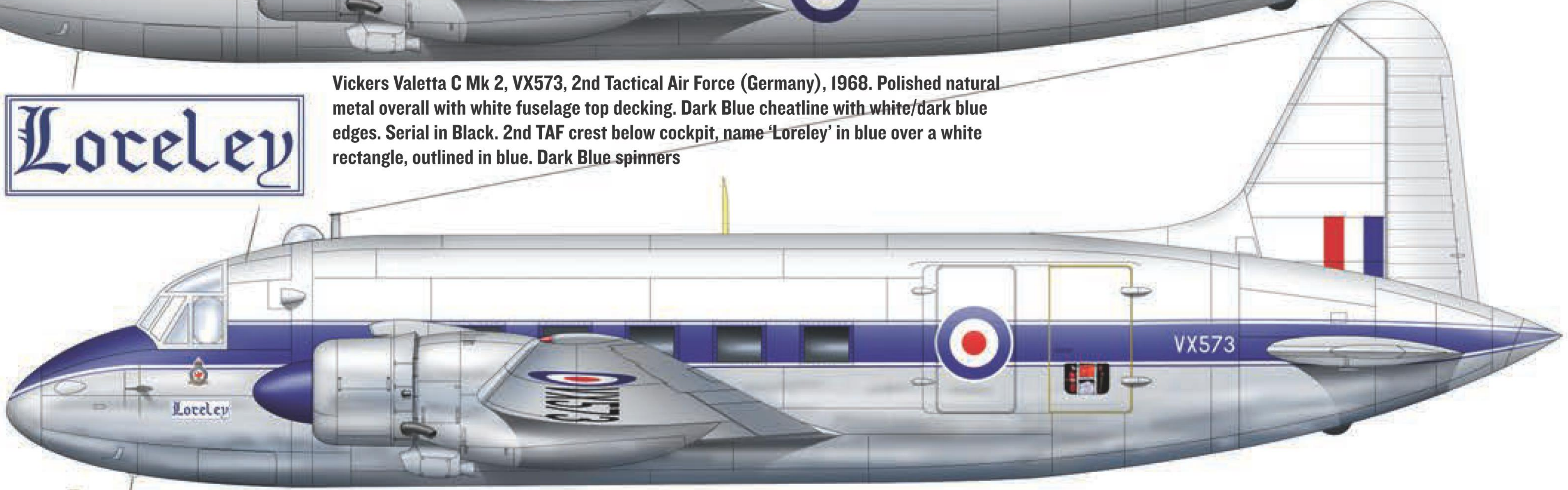
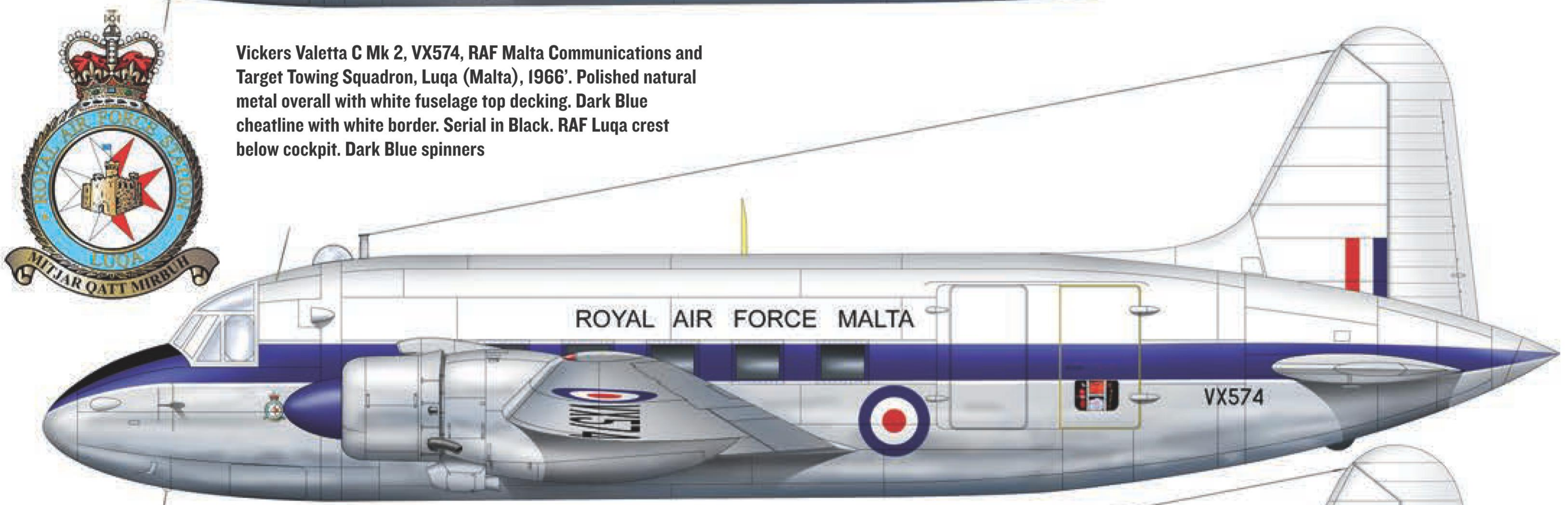
Vickers Valetta C Mk I, VX522/522, No.52 Squadron, RAF Far East, Gan, 1958. Aluminium paint overall with white fuselage top decking. Dark blue cheatline. White '52' within a dark blue diamond on fin. All lettering in black

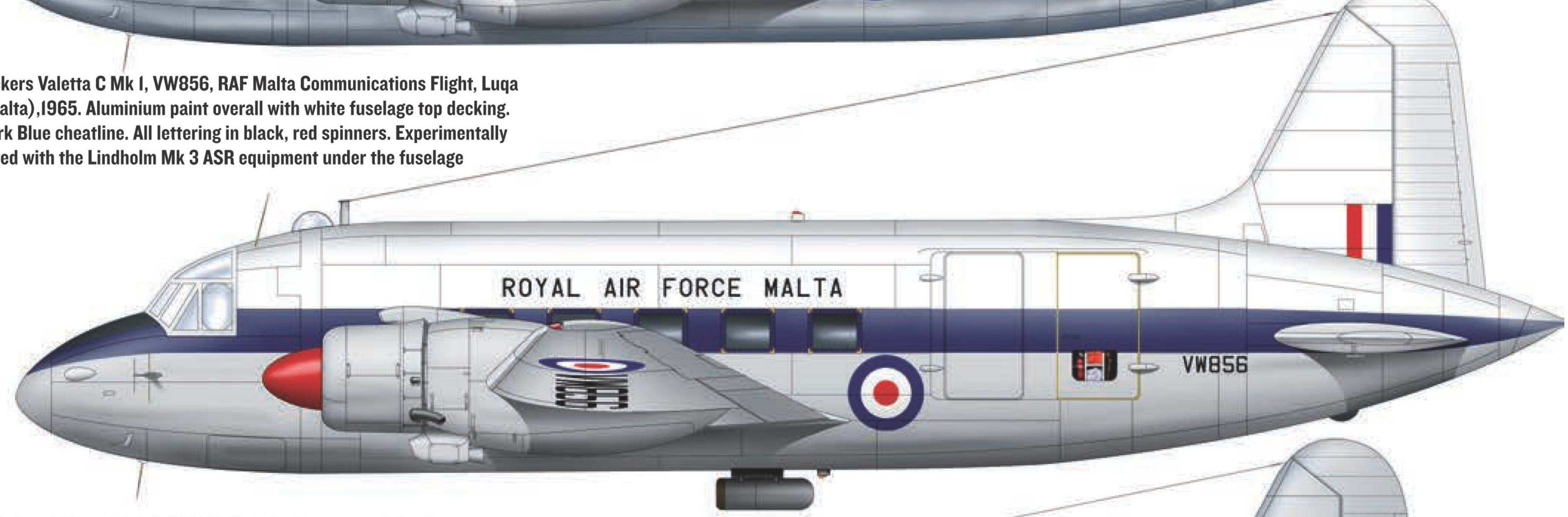
Vickers Valetta C Mk 2, VX573, 2nd Tactical Air Force (Germany), 1968. Polished natural metal overall with white fuselage top decking. Dark Blue cheatline with white/dark blue edges. Serial in Black. 2nd TAF crest below cockpit, name 'Loreley' in blue over a white rectangle, outlined in blue. Dark Blue spinners



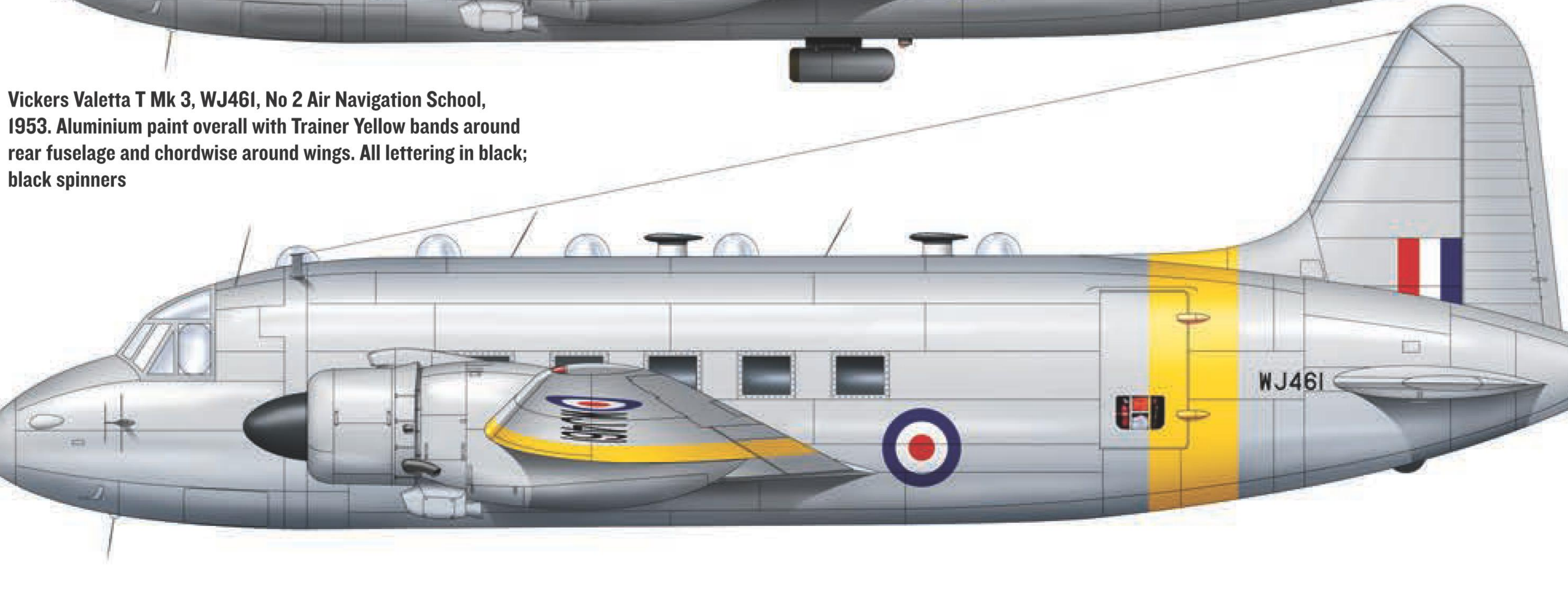

Vickers Valetta C Mk 2, VX574, RAF Malta Communications and Target Towing Squadron, Luqa (Malta), 1966'. Polished natural metal overall with white fuselage top decking. Dark Blue cheatline with white border. Serial in Black. RAF Luqa crest below cockpit. Dark Blue spinners

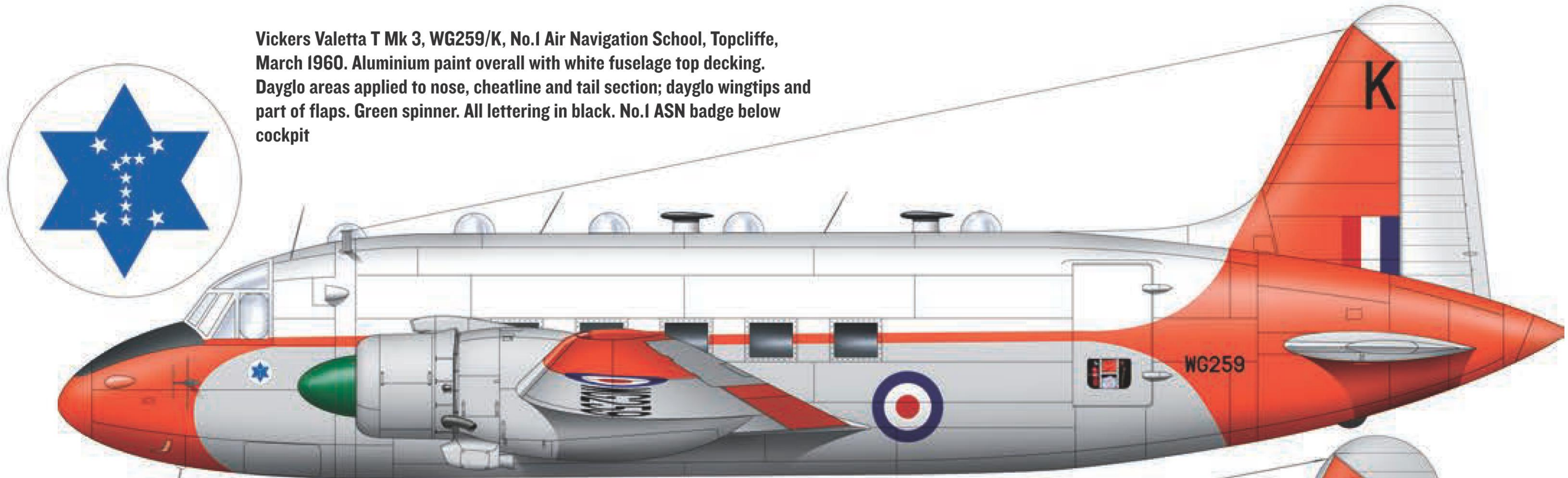



Vickers Valetta C Mk I, VW856, RAF Malta Communications Flight, Luqa (Malta),1965. Aluminium paint overall with white fuselage top decking. Dark Blue cheatline. All lettering in black, red spinners. Experimentally fitted with the Lindholm Mk 3 ASR equipment under the fuselage

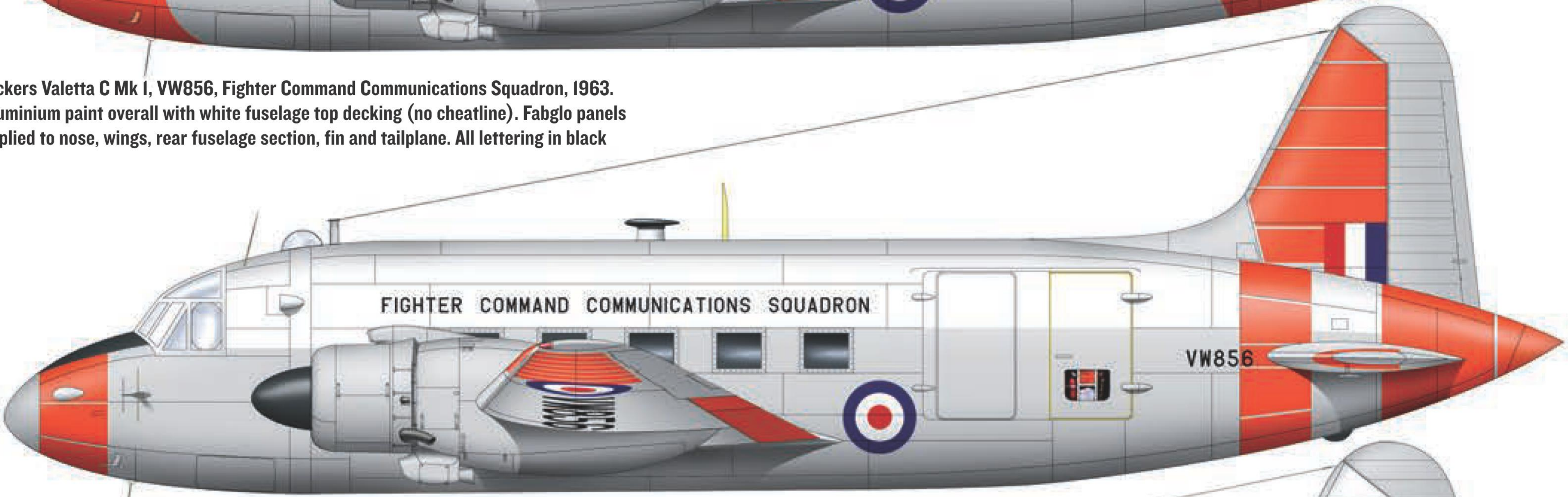



Vickers Valetta T Mk 3, WJ461, No 2 Air Navigation School, 1953. Aluminium paint overall with Trainer Yellow bands around rear fuselage and chordwise around wings. All lettering in black; black spinners

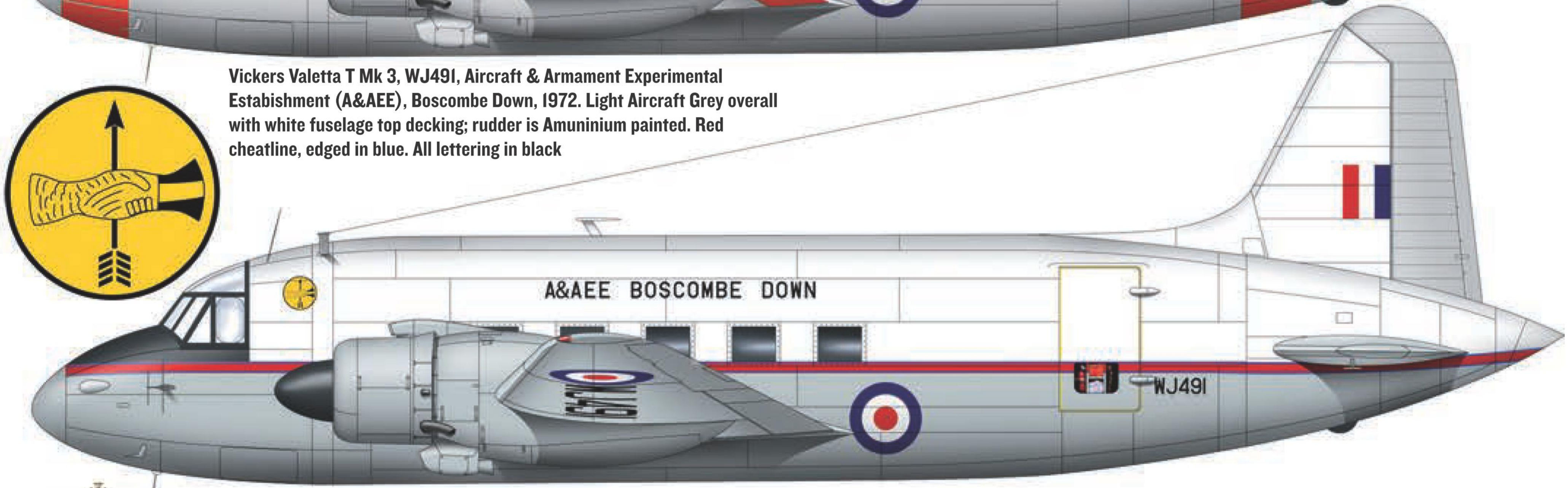




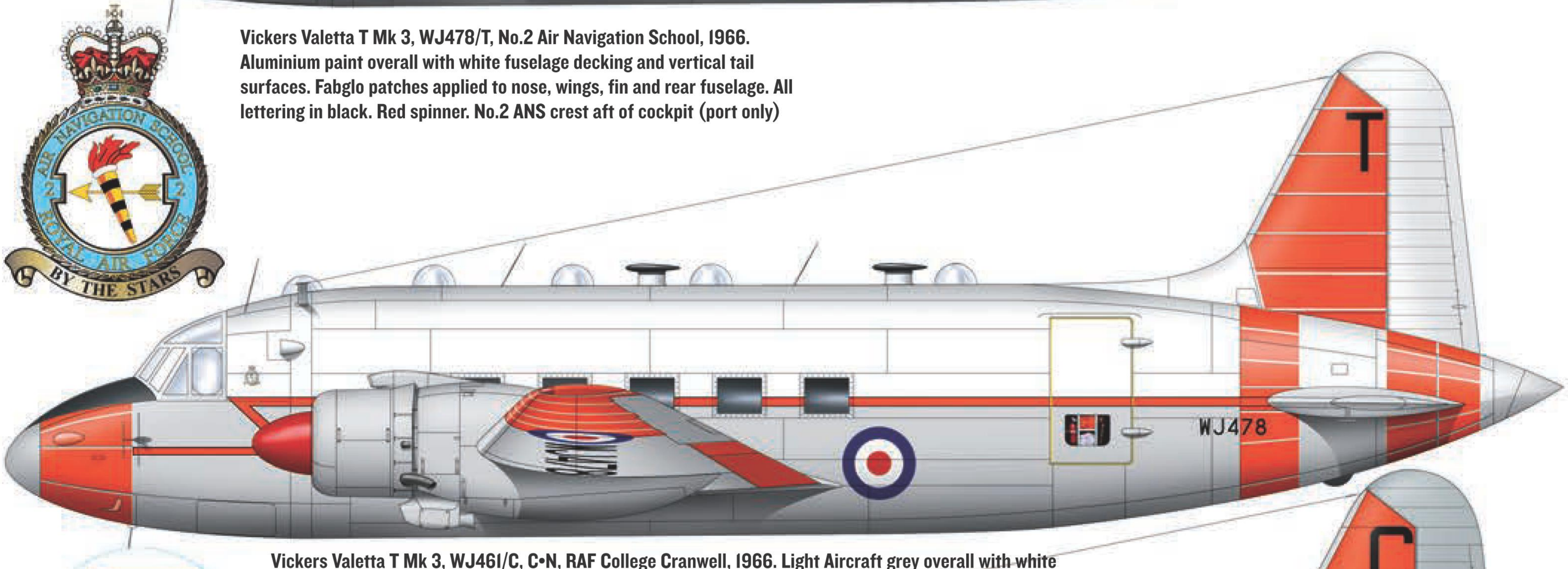

Vickers Valetta T Mk 3, WG259/K, No.1 Air Navigation School, Topcliffe, March 1960. Aluminium paint overall with white fuselage top decking. Dayglo areas applied to nose, cheatline and tail section; dayglo wingtips and part of flaps. Green spinner. All lettering in black. No.1 ASN badge below cockpit



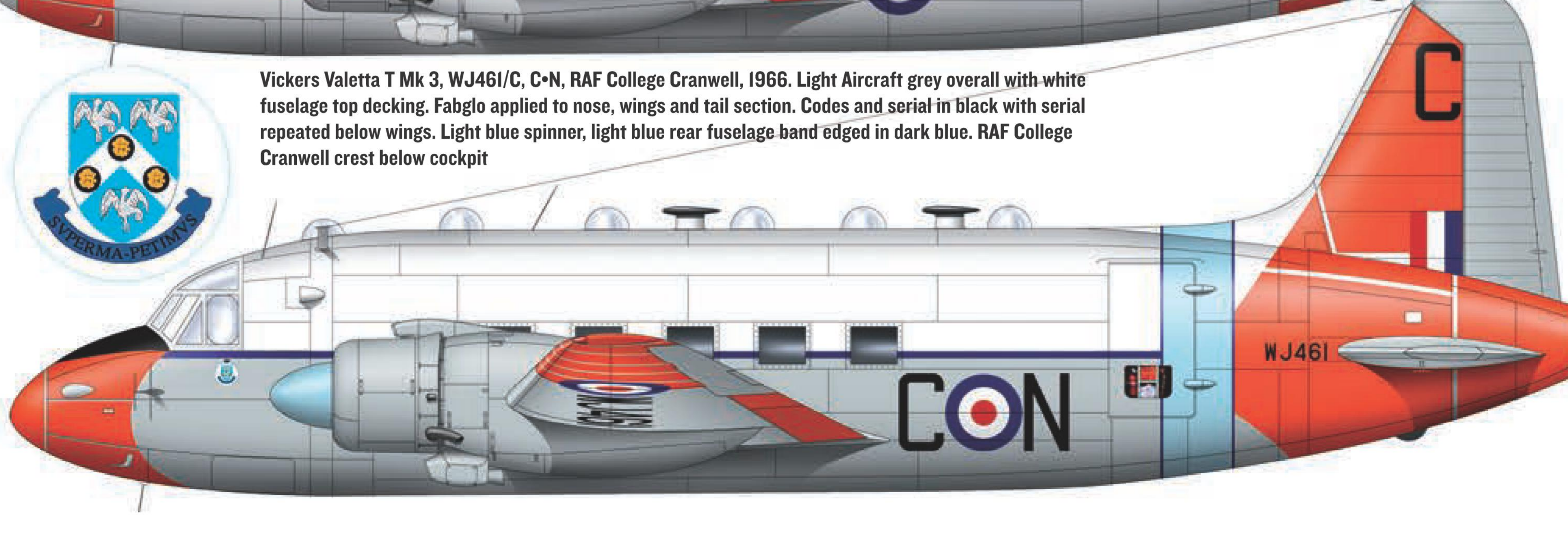

Vickers Valetta C Mk 1, VW856, Fighter Command Communications Squadron, 1963. Aluminium paint overall with white fuselage top decking (no cheatline). Fabglo panels applied to nose, wings, rear fuselage section, fin and tailplane. All lettering in black




Vickers Valetta T Mk 3, WJ491, Aircraft & Armament Experimental Estabishment (A&AEE), Boscombe Down, 1972. Light Aircraft Grey overall with white fuselage top decking; rudder is Amuninium painted. Red cheatline, edged in blue. All lettering in black

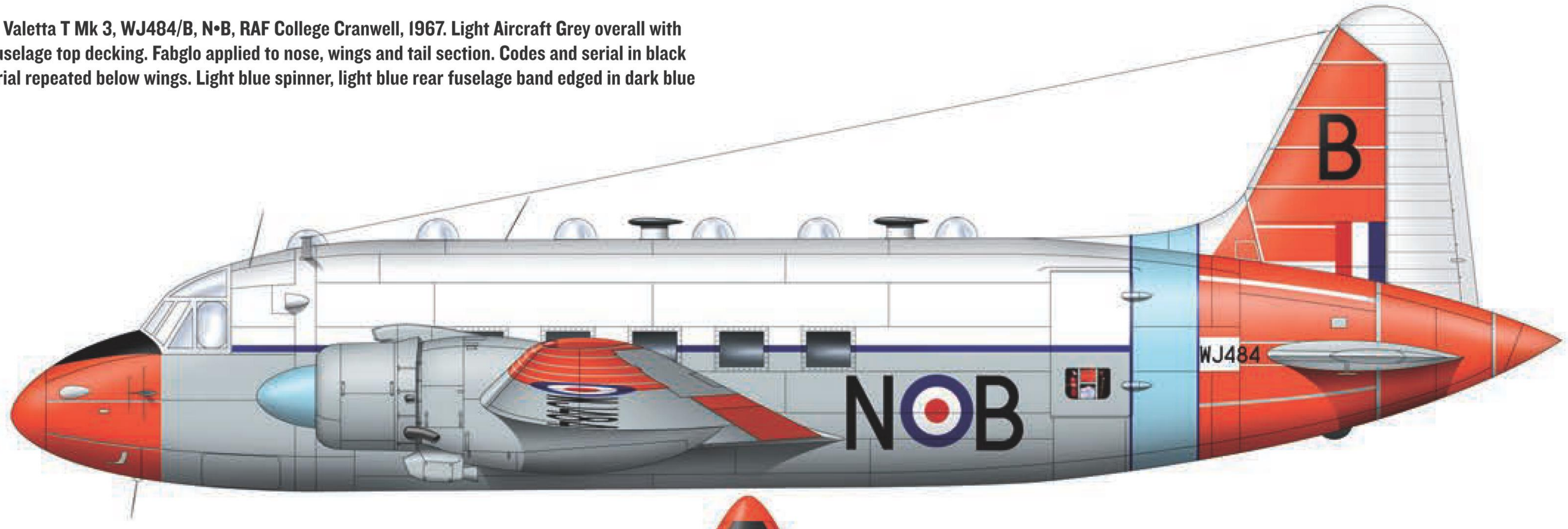



Vickers Valetta T Mk 3, WJ478/T, No.2 Air Navigation School, 1966. Aluminium paint overall with white fuselage decking and vertical tail surfaces. Fabglo patches applied to nose, wings, fin and rear fuselage. All lettering in black. Red spinner. No.2 ANS crest aft of cockpit (port only)

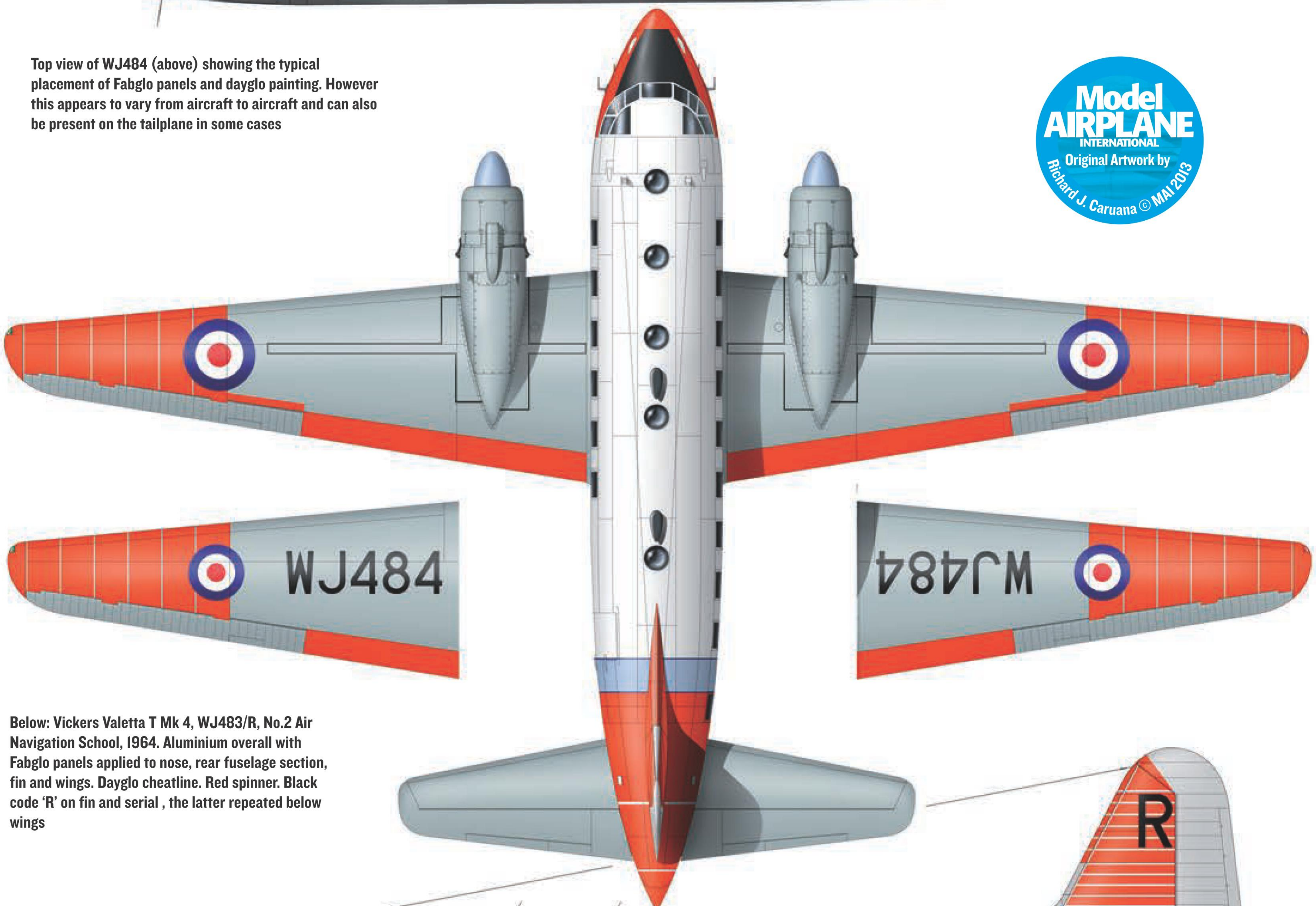



Vickers Valetta T Mk 3, WJ461/C, C•N, RAF College Cranwell, 1966. Light Aircraft grey overall with white fuselage top decking. Fabglo applied to nose, wings and tail section. Codes and serial in black with serial repeated below wings. Light blue spinner, light blue rear fuselage band edged in dark blue. RAF College Cranwell crest below cockpit

**Vickers Valetta T Mk 3, WJ484/B, N•B, RAF College Cranwell, 1967. Light Aircraft Grey overall with white fuselage top decking. Fabglo applied to nose, wings and tail section. Codes and serial in black with serial repeated below wings. Light blue spinner, light blue rear fuselage band edged in dark blue**




**Top view of WJ484 (above) showing the typical placement of Fabglo panels and dayglo painting. However this appears to vary from aircraft to aircraft and can also be present on the tailplane in some cases**

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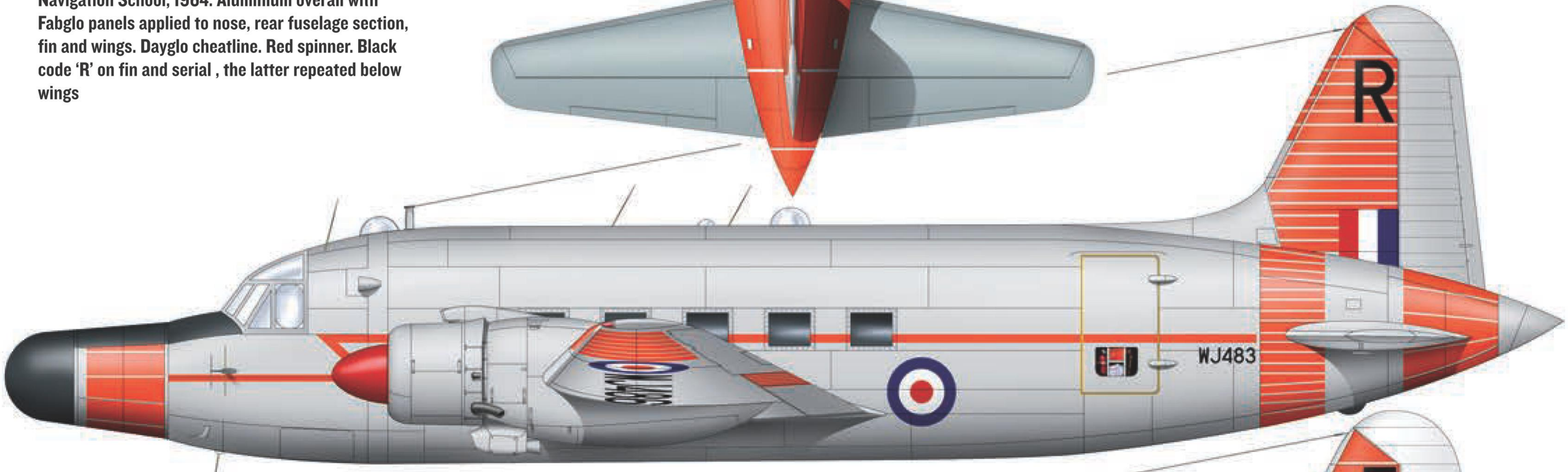
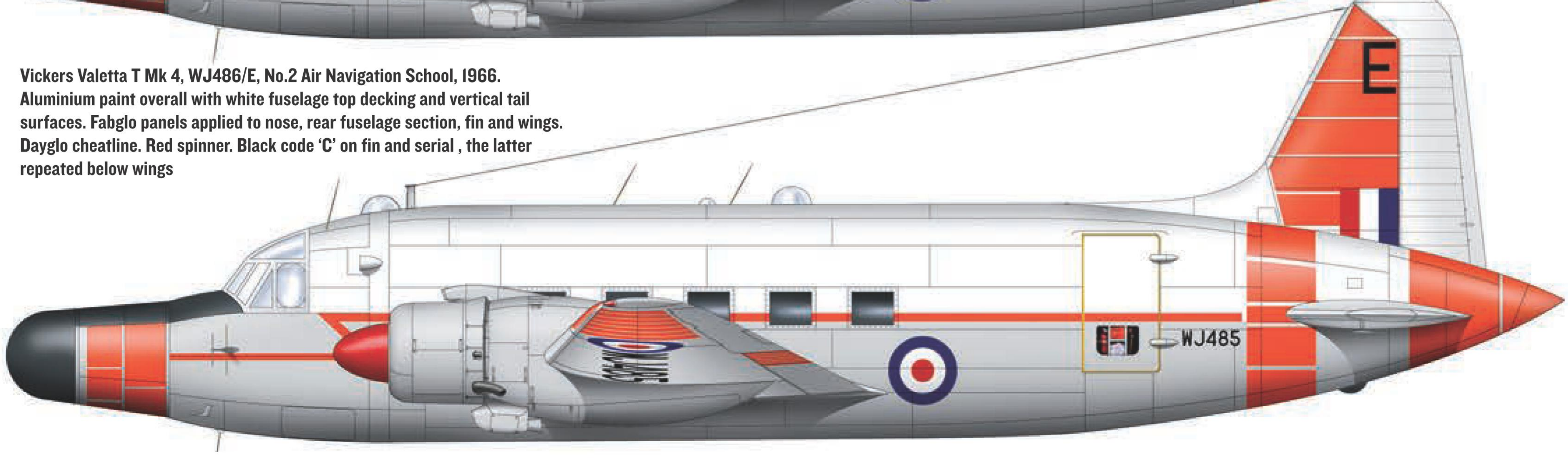
**Below: Vickers Valetta T Mk 4, WJ483/R, No.2 Air Navigation School, 1964. Aluminium overall with Fabglo panels applied to nose, rear fuselage section, fin and wings. Dayglo cheatline. Red spinner. Black code 'R' on fin and serial , the latter repeated below wings**



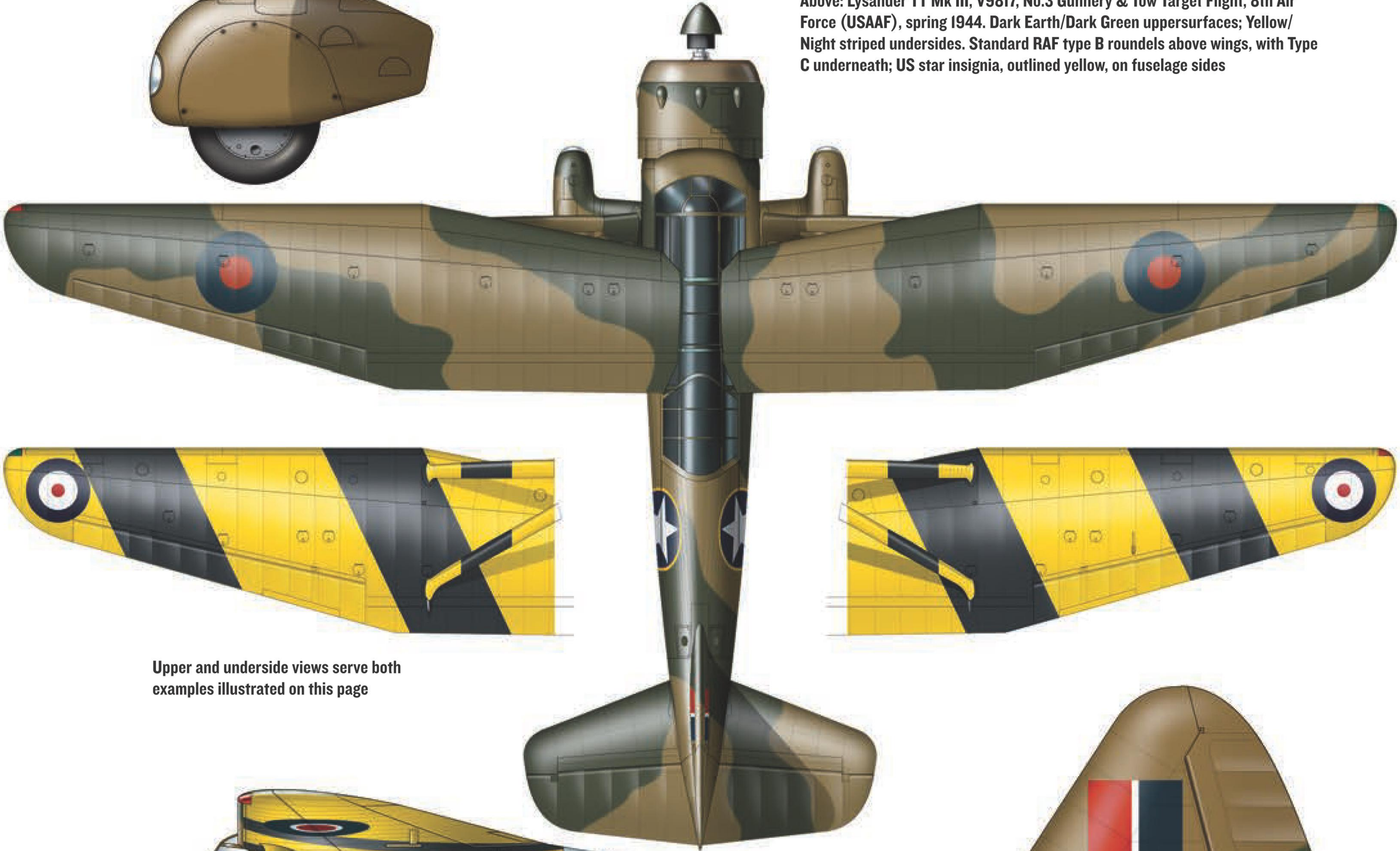

**Vickers Valetta T Mk 4, WJ486/E, No.2 Air Navigation School, 1966. Aluminium paint overall with white fuselage top decking and vertical tail surfaces. Fabglo panels applied to nose, rear fuselage section, fin and wings. Dayglo cheatline. Red spinner. Black code 'C' on fin and serial , the latter repeated below wings**



# ANTI-CAMOUFLAGE 5

## LYSANDER TARGET TUGS

Above: Lysander TT Mk III, V9817, No.3 Gunnery & Tow Target Flight, 8th Air Force (USAAF), spring 1944. Dark Earth/Dark Green uppersurfaces; Yellow/Night striped undersides. Standard RAF type B roundels above wings, with Type C underneath; US star insignia, outlined yellow, on fuselage sides



Upper and underside views serve both examples illustrated on this page

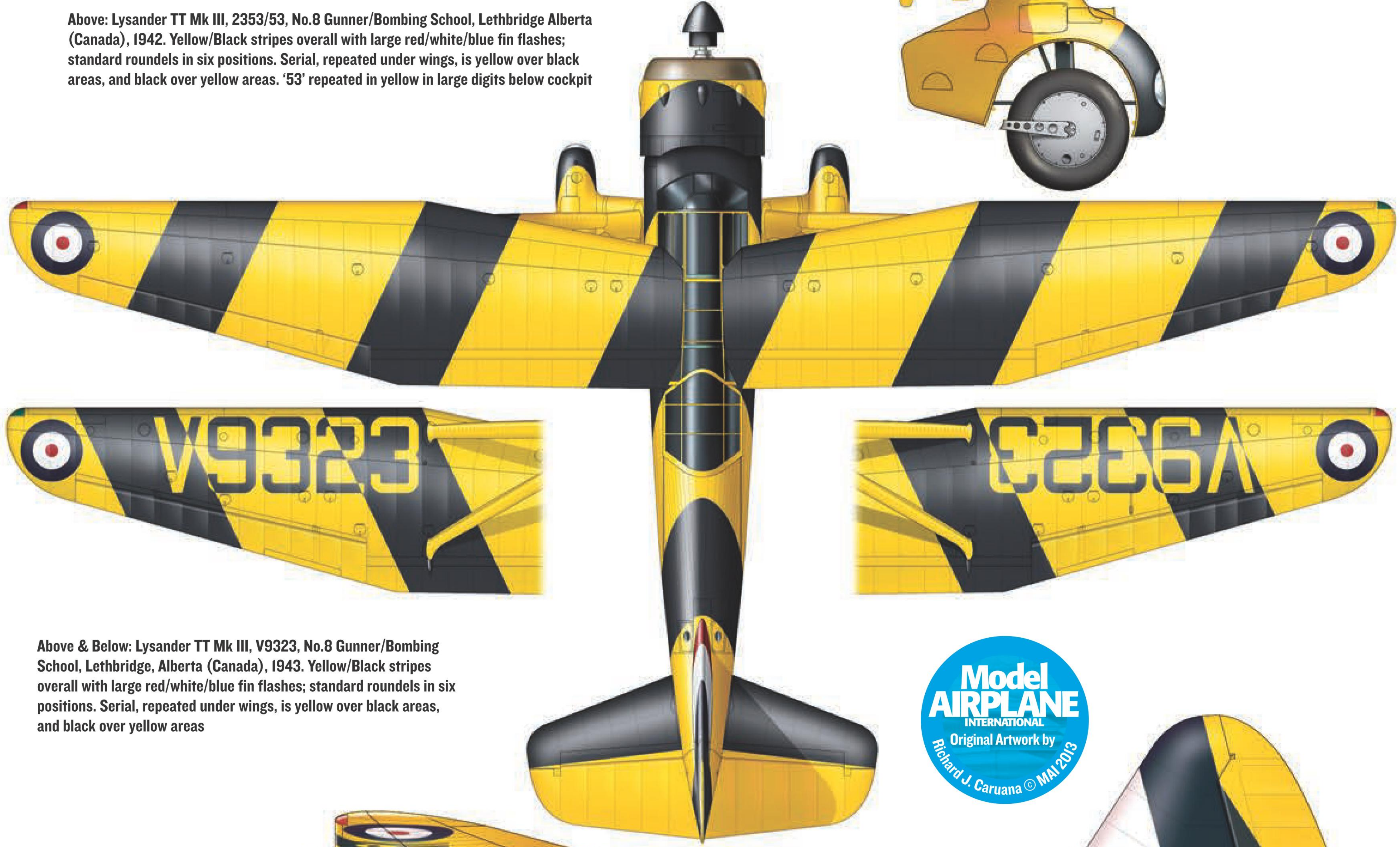
Lysander TT Mk III, T1445, W6-K, No.755 Squadron FAA, 1942. Dark Earth/Dark Green uppersurfaces with Yellow/Night striped undersides. Codes in Sky Grey; Type C roundels on fuselage, Type B above and Type C under wings. 'K' of code repeated on cowling and under fin flash

PROFILES:1/48 SCALE

0 metres 1 2

0 feet 3 6

Above: Lysander TT Mk III, 2353/53, No.8 Gunner/Bombing School, Lethbridge Alberta (Canada), 1942. Yellow/Black stripes overall with large red/white/blue fin flashes; standard roundels in six positions. Serial, repeated under wings, is yellow over black areas, and black over yellow areas. '53' repeated in yellow in large digits below cockpit




Above & Below: Lysander TT Mk III, V9323, No.8 Gunner/Bombing School, Lethbridge, Alberta (Canada), 1943. Yellow/Black stripes overall with large red/white/blue fin flashes; standard roundels in six positions. Serial, repeated under wings, is yellow over black areas, and black over yellow areas

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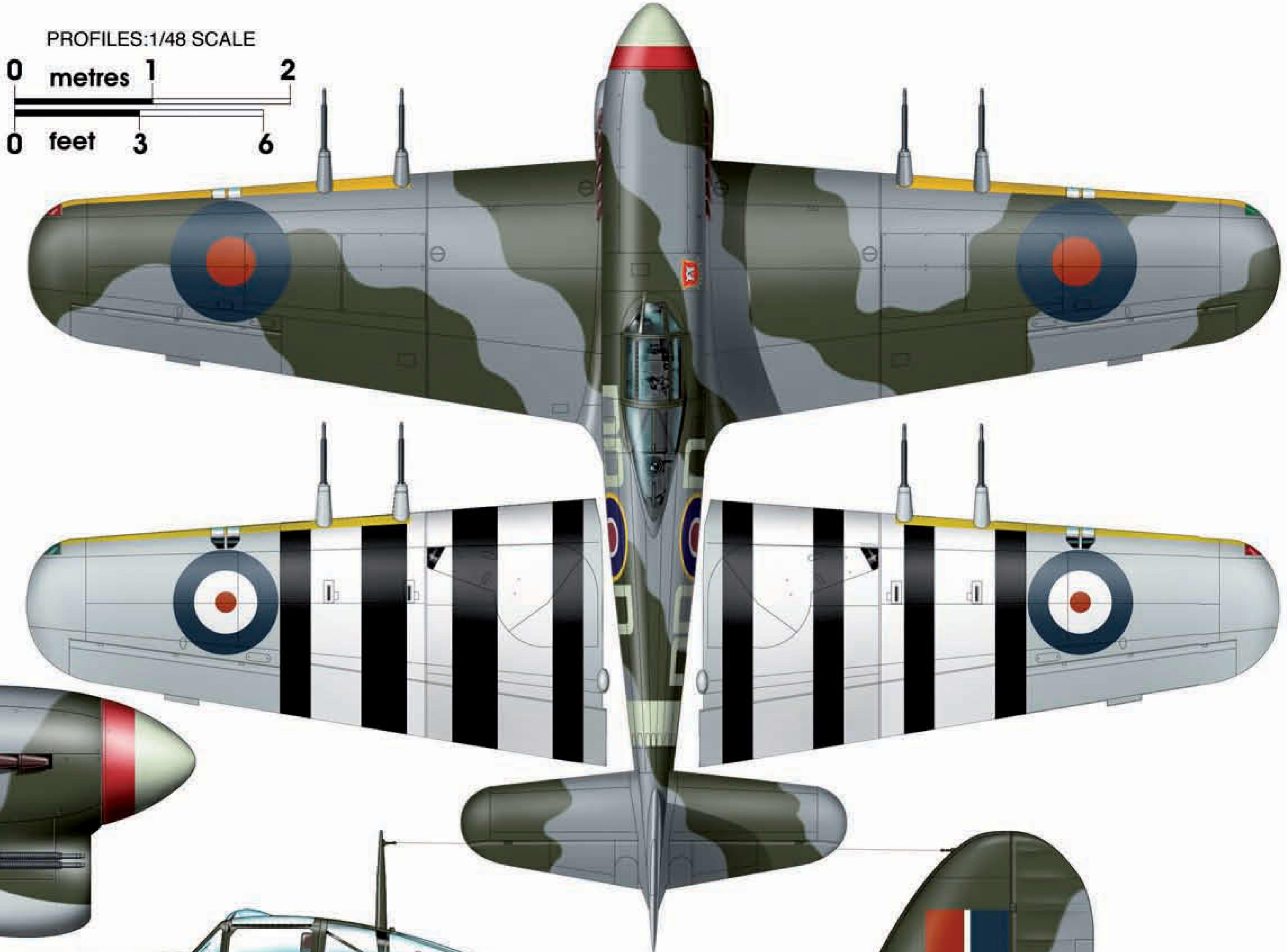
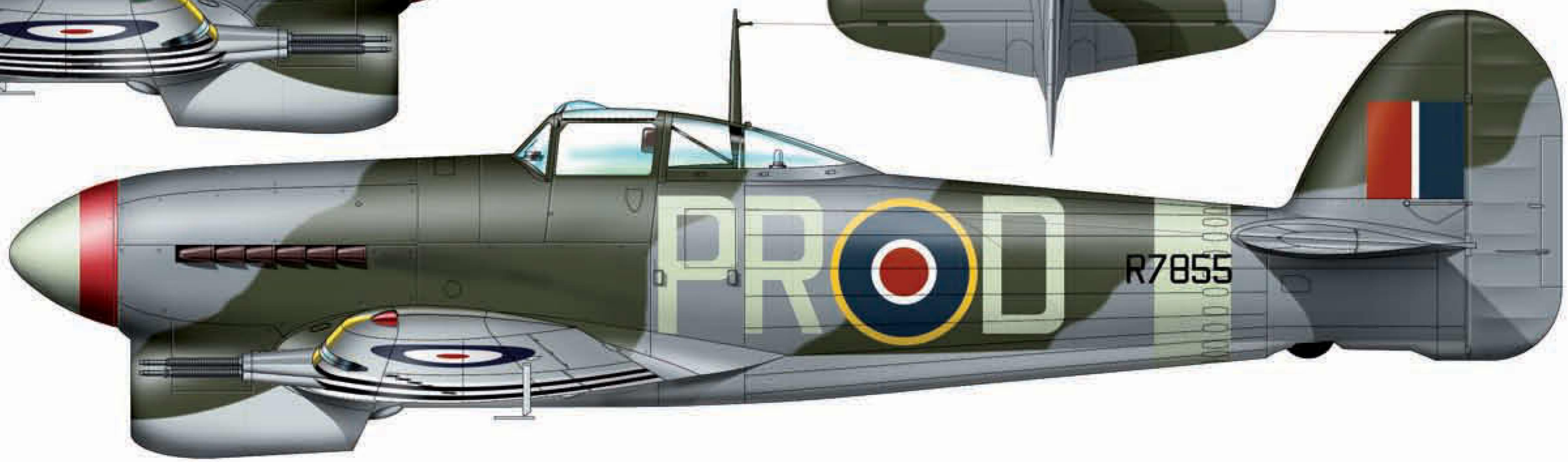
PROFILES:1/48 SCALE

0 metres 1 2

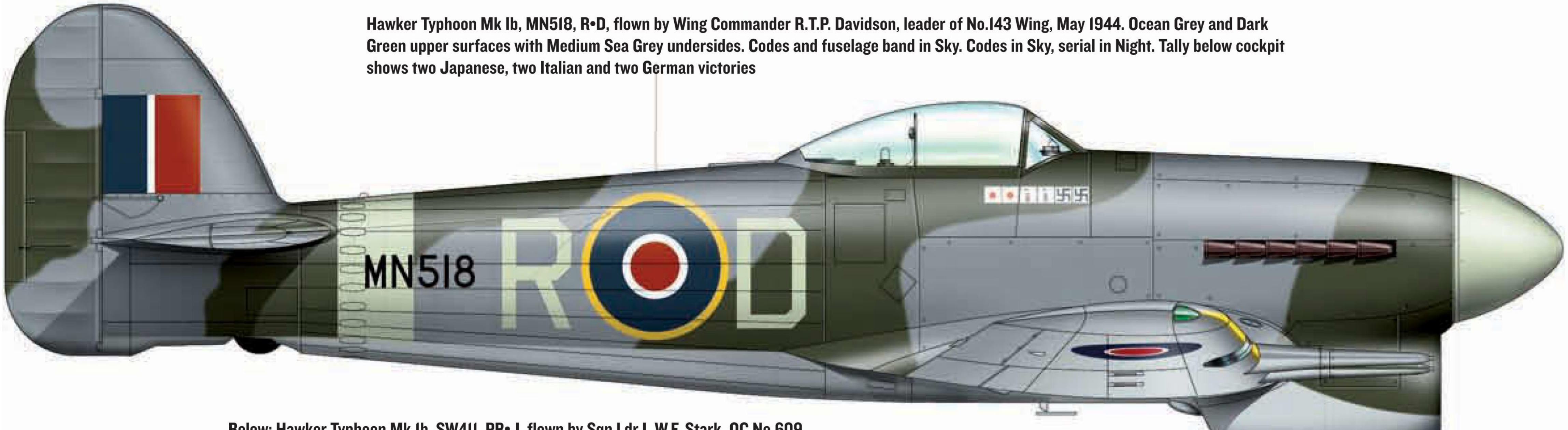
0 feet 3 6

**Hawker Typhoon Mk Ia, (converted to Mk Ib standard), R7855, PR•D, flown by Flying Officer Lallemant, No.609 Squadron RAF Manston, April 1944. Ocean Grey and Dark Green upper surfaces, Medium Sea Grey undersides. Codes and front of spinner, together with fuselage band in Sky; rear of spinner in red. Standard period markings except for retention of early style Blue/white/red underwing roundels. Night (30cm/12") and White (46cm/18") ident bands under wings. Note unshrouded front section of cannon. Personal emblem on starboard only; codes other side read PR•D**



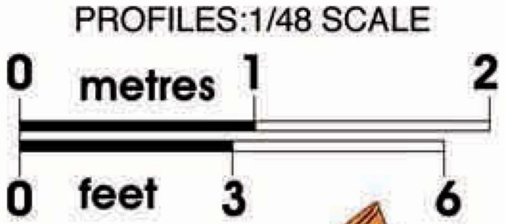


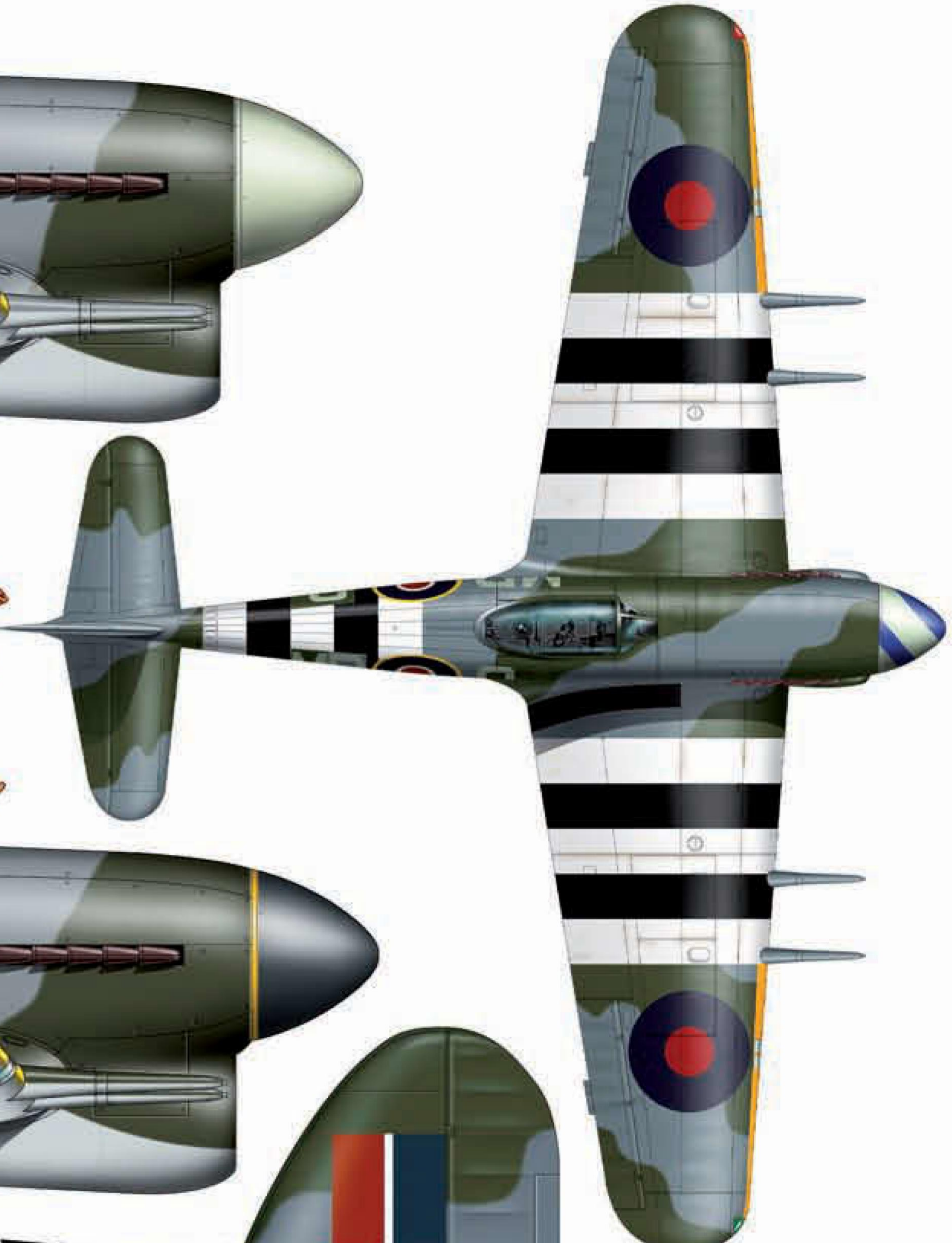
Hawker Typhoon Mk Ib, MN518, R•D, flown by Wing Commander R.T.P. Davidson, leader of No.143 Wing, May 1944. Ocean Grey and Dark Green upper surfaces with Medium Sea Grey undersides. Codes and fuselage band in Sky. Codes in Sky, serial in Night. Tally below cockpit shows two Japanese, two Italian and two German victories



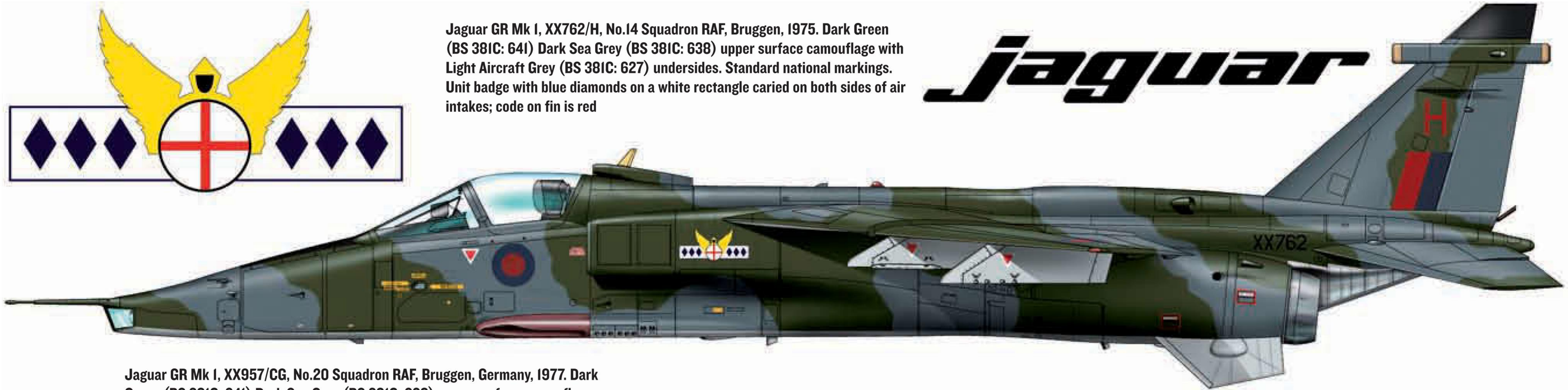

Below: Hawker Typhoon Mk Ib, SW411, PR•J, flown by Sqn Ldr L.W.F. Stark, OC No.609 Squadron, Plantlunne (B.103, Germany), May 1945. Ocean Grey and Dark Green upper surfaces with Medium Sea Grey undersides. Sky codes, Sky fuselage band painted over. Black spinner with yellow back plate. Unit badge and rank pennant below windscreen. Red/white/blue roundels above and below wings. Note: inside of undercarriage doors were yellow, edged in white

Bottom & Far Right: Hawker Typhoon Mk Ib, MN819, MR•?, flown by Sqn Ldr J. Collins, No.245 Squadron, 1944. Ocean Grey and Dark Green upper surfaces with Medium Sea Grey undersides. Full invasion markings (46cm/18") on fuselage and under wings. Standard markings for period, except for a blue spiral on the Sky spinner. Note 'window' in fuselage stripes for '?' on port and 'MR' on starboard. Visible part of serial remains on Sky background





**Jaguar GR Mk I, XX762/H, No.14 Squadron RAF, Bruggen, 1975. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) upper surface camouflage with Light Aircraft Grey (BS 381C: 627) undersides. Standard national markings. Unit badge with blue diamonds on a white rectangle caried on both sides of air intakes; code on fin is red**




**Jaguar GR Mk I, XX957/CG, No.20 Squadron RAF, Bruggen, Germany, 1977. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) upper surface camouflage with Light Aircraft Grey (BS 381C: 627) undersides. Standard national markings. Code is black outlined in white on fin, repeated in white on a black nosewheel door**

**Jaguar GR Mk I, XX821/BF, No.17 Squadron RAF, Bruggen, Germany, 1978. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage; standard national markings. Unit badge flanked by white bars with black zig-zag patterns superimposed. Code on fin is black, outlined white.**

**Jaguar GR Mk IA, XZ392/DQ, No.31 Squadron RAF, Bruggen, Germany, 1978. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage with blue/red national markings. Wing tank pylon is in Light Aircraft Grey. Codes on fin in black thinly outlined white**

Jaguar GR Mk I, XX732, of No.54 Squadron RAF, Coltishall, 1979, which participated in 'Bull's Eye '79'. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage; standard national markings. Red/white sharkmouth around nose; unit badge on front of nose, port side only. Yellow/blue checks on air intakes. Note 'Bull's Eye' badge above fin flash (colours are artist's interpretation from BW photo), and KG.41 crest zapped on starboard, just ahead of air intake

Jaguar GR Mk IA, XZ104/24, No.II Squadron RAF, Laarbruch, Germany, May 1988. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage; standard national markings. All matt black fin with 1912-1988, two triangles and a circle in white on ECM fin fairing. Large rendering of the unit crest on fin (both sides). Note '24' in a triangle carried on nosehweel door

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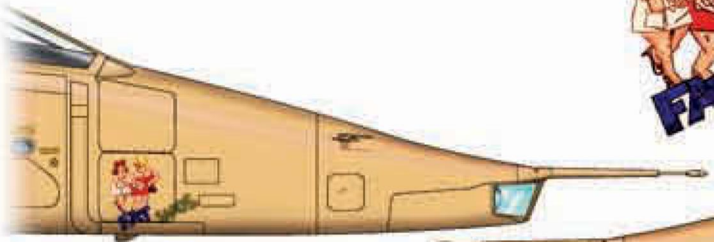
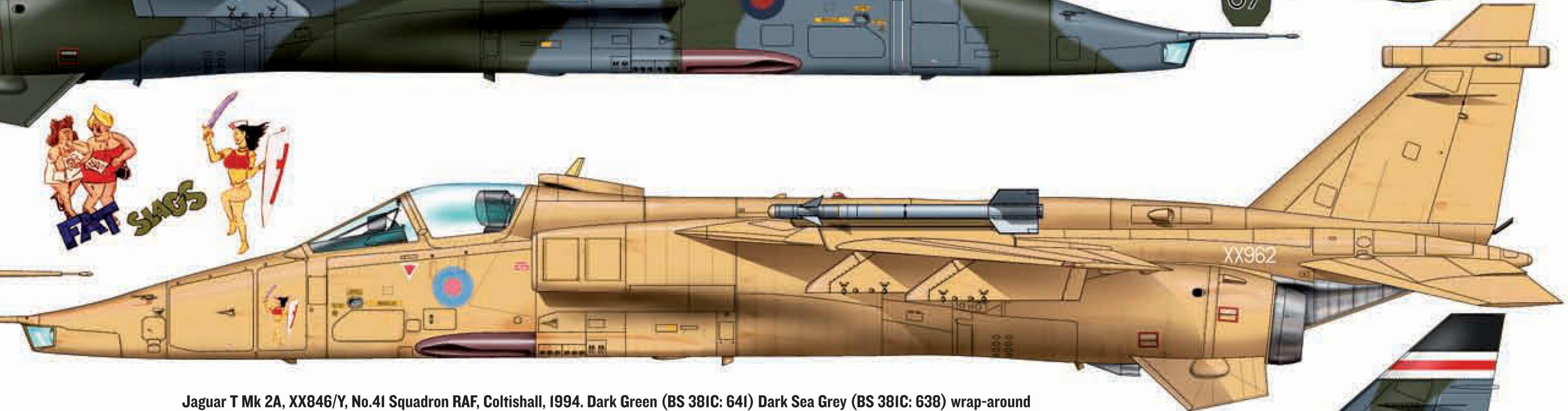
Jaguar GR Mk IA, XX766, No.6 Squadron RAF, Coltishall, Norfolk, 1993. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage with black leading edge to fin. Full squadron crest is carried on both sides of fin; 'can-opener' marking flanked by light blue bars (outlined red) with red zig-zag on air intake; similar bar on ECM fin fairing. Note lack of tail-cone

Jaguar GR Mk IA, XX965/07, No.226 Operational Conversion Unit, 1990. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage. Black vertical tail surfaces with unit badge superimposed, outlined in white. Unit crest on engine air intakes. '07' in black, outlined in white, on nosewheel door



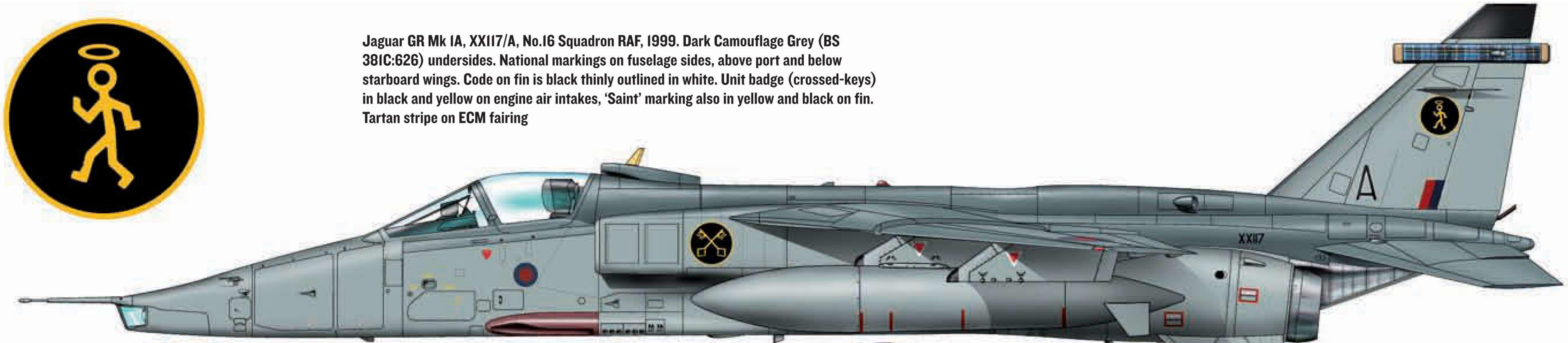



Above: Jaguar GR Mk IA, XX962 'Fat Slags', No.41 (Composite) Squadron RAF, Operation Desert Storm, Jan-Feb 1991. 'Desert Pink' overall. Roundels in pale red and pale blue; no roundel carried above port wing. After its return to the UK, XX962 was further adorned with 28 mission markings just ahead of the port air intake

Jaguar T Mk 2A, XX846/Y, No.41 Squadron RAF, Coltishall, 1994. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage; standard national markings. Unit marking on fin, repeated on air intakes; white bar with horizontal centre strip in red on top of fin and on both sides of air intake unit marking. 'Y' in red on fin, outlined in white

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

**Jaguar GR Mk IA, XX117/A, No.16 Squadron RAF, 1999. Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. Code on fin is black thinly outlined in white. Unit badge (crossed-keys) in black and yellow on engine air intakes, 'Saint' marking also in yellow and black on fin. Tartan stripe on ECM fairing**




**Above & Below: Jaguar GR Mk 3A, XZ357/FK, No.41 Squadron, as recorded at Chivenor on 12th July 2000. Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. Red/white bars flank the unit crest on the air intake, repeated on the ECM fin fairing. 'FK' repeated in black on nosewheel door**

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Jaguar GR Mk IA, XZ108, No.16 Squadron RAF. Dark Sea Grey (BS 381C: 638) upper surfaces with Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. 'Saint' motif on fin and unit badge on air intakes in white. Pylons and tanks in Dark Green (BS 381C: 641)

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Below: Jaguar GR Mk 3A, XZ364, No.54 Squadron, Cottesmore, 21st July 2000. Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. Tail in red/white/blue; RAF Cottesmore in gold outlined in black. Flags of different nations carried on fin. RAF Coltishall badge on air intakes

Jaguar GR Mk 3A, XZ113, EOU. Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. Serial in black. Unit badge on fin, repeated on air intakes over a blue rectangle

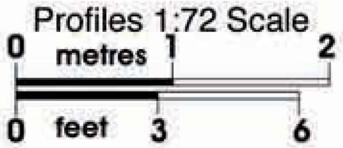
Jaguar T Mk 4, XX840/EY, No.6 Squadron RAF, 2007. Dark Camouflage Grey (BS 381C:626) undersides. National markings on fuselage sides, above port and below starboard wings. Serial in black. Unit badge in red on air intakes. Blue stripe with red zig-zag across top of fin

Jaguar International ES, FAE329, Fuerza Aerea Ecuadoriana, Taura. Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) upper surface camouflage with Light Aircraft Grey (BS 381C: 627) undersides in standard RAF pattern. Roundels in four wing positions (see scrap view). '329' of serial repeated on nosewheel door

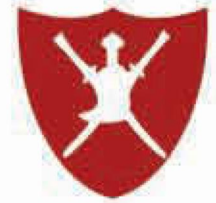
Below: Jaguar IS, JS185, No.14 (Bulls) Squadron Indian Air Force, Ambala. Standard RAF-style Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage with red/yellow checks flanking unit crest on air intakes. Roundels in six positions. Note black air intake lips

Jaguar IM, JM254, No.6 Squadron Indian Air Force, Lohegaon. Standard RAF-style Dark Green (BS 381C: 641) Dark Sea Grey (BS 381C: 638) wrap-around camouflage. Red/white diamond motif flanks unit crest; black air intake lips. Roundels in six positions

Jaguar IM, JM252, No.6 Squadron, Indian Air Force, 2006. Light Grey and Blue Grey wrap-around camouflage. National markings in six positions. Serial on fin in black. Red/white diamond motif flanks unit crest. Black air intake lips. '252' repeated on nosewheel door in red



Jaguar International NS, NAF705, Federal Nigerian Air Force, 1985. FS.34079, FS.30318 and FS.34159 three-tone wrap-around camouflage. National roundels in six positions; black leading edge to all flying surfaces. Serial is repeated (in RAF style) under the wings in black

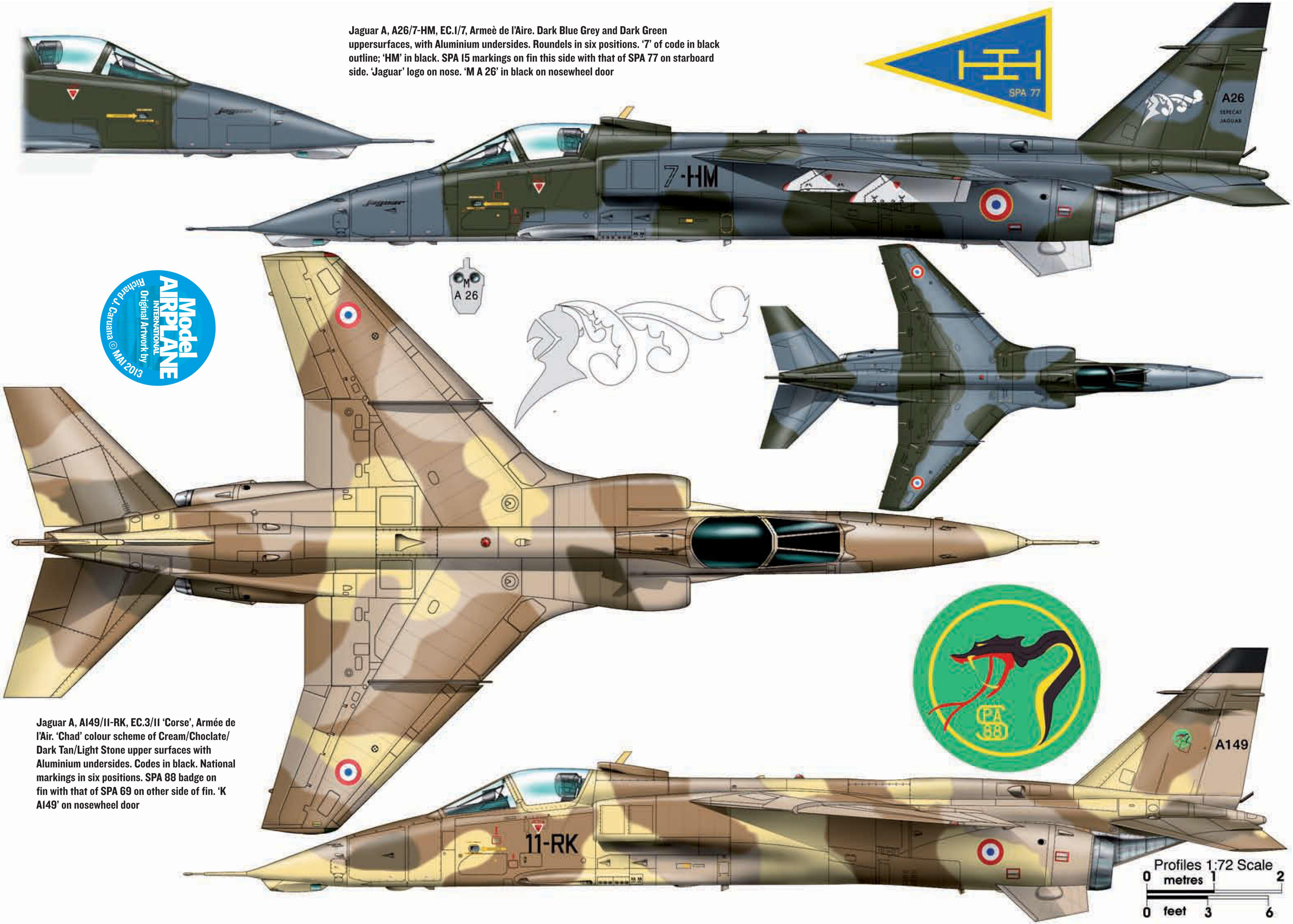


Jaguar International S(O)1, '204', No.8 Squadron, Sultan of Oman Air Force, 1977. Light Earth and Dark Earth wrap-around camouflage. No wing markings; Sultan of Oman shield is carried on both sides of fin. Serial in black, in both normal and 'arabic' script

Jaguar International S(O)1, '2017', No.20 Squadron, Royal Air Force of Oman, 2008 Light Earth and Dark Earth wrap-around camouflage. No wing markings. RAFoO shield is carried on both sides of fin. Serial in black, in both normal and 'Arabic' script

Jaguar International OB, 213, Royal Air Force of Oman, February 2013. Tan, Light Green and Medium Green wrap-around camouflage. No wing markings. RAFoO shield on both sides of fin. Serial in black, in both normal and 'Arabic' script

Jaguar A, A26/7-HM, EC.1/7, Armeè de l'Aire. Dark Blue Grey and Dark Green uppersurfaces, with Aluminium undersides. Roundels in six positions. '7' of code in black outline; 'HM' in black. SPA 15 markings on fin this side with that of SPA 77 on starboard side. 'Jaguar' logo on nose. 'M A 26' in black on nosewheel door

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Jaguar A, A149/11-RK, EC.3/11 'Corse', Armée de l'Air. 'Chad' colour scheme of Cream/Choclate/ Dark Tan/Light Stone upper surfaces with Aluminium undersides. Codes in black. National markings in six positions. SPA 88 badge on fin with that of SPA 69 on other side of fin. 'K A149' on nosewheel door

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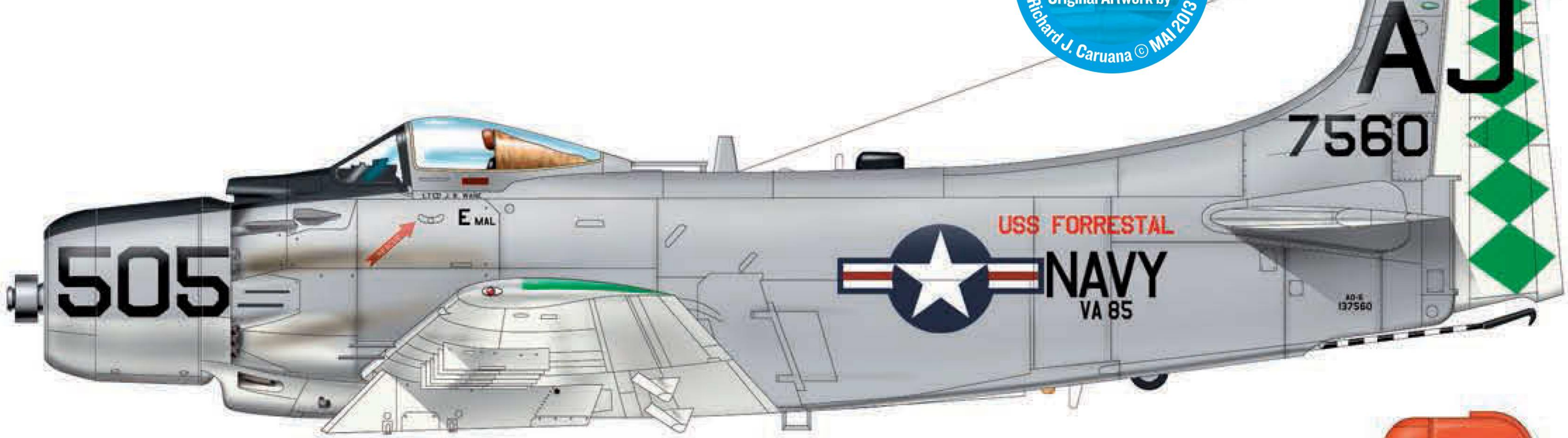
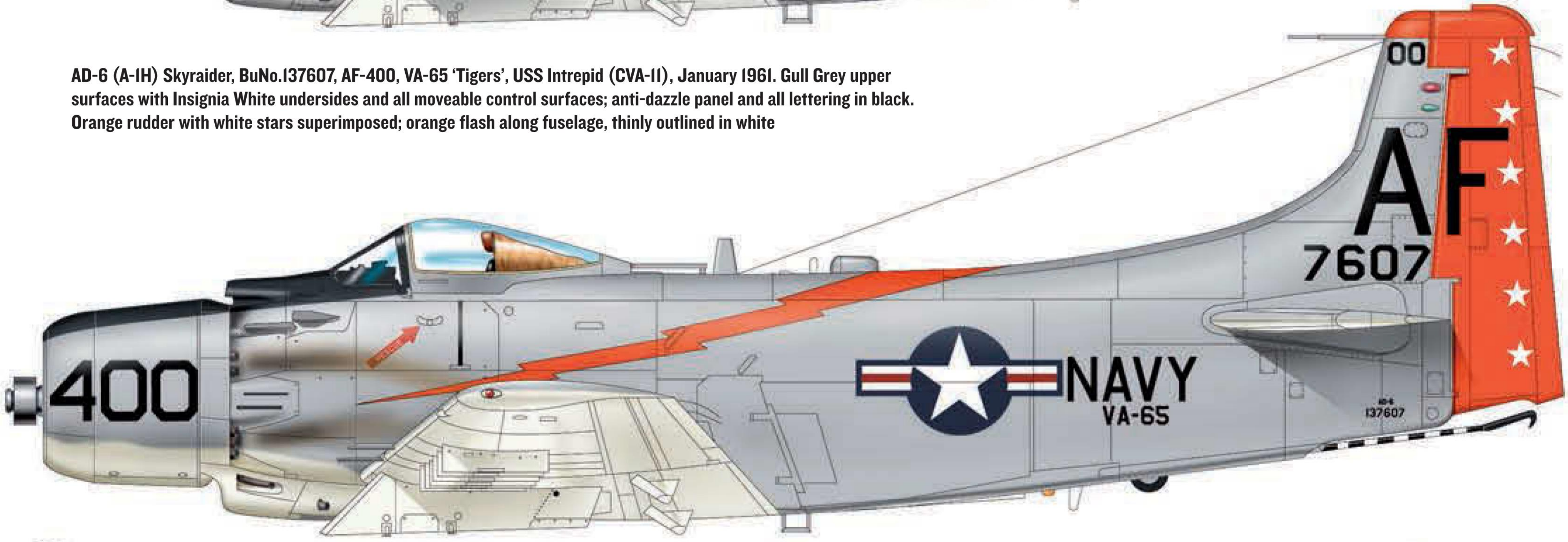
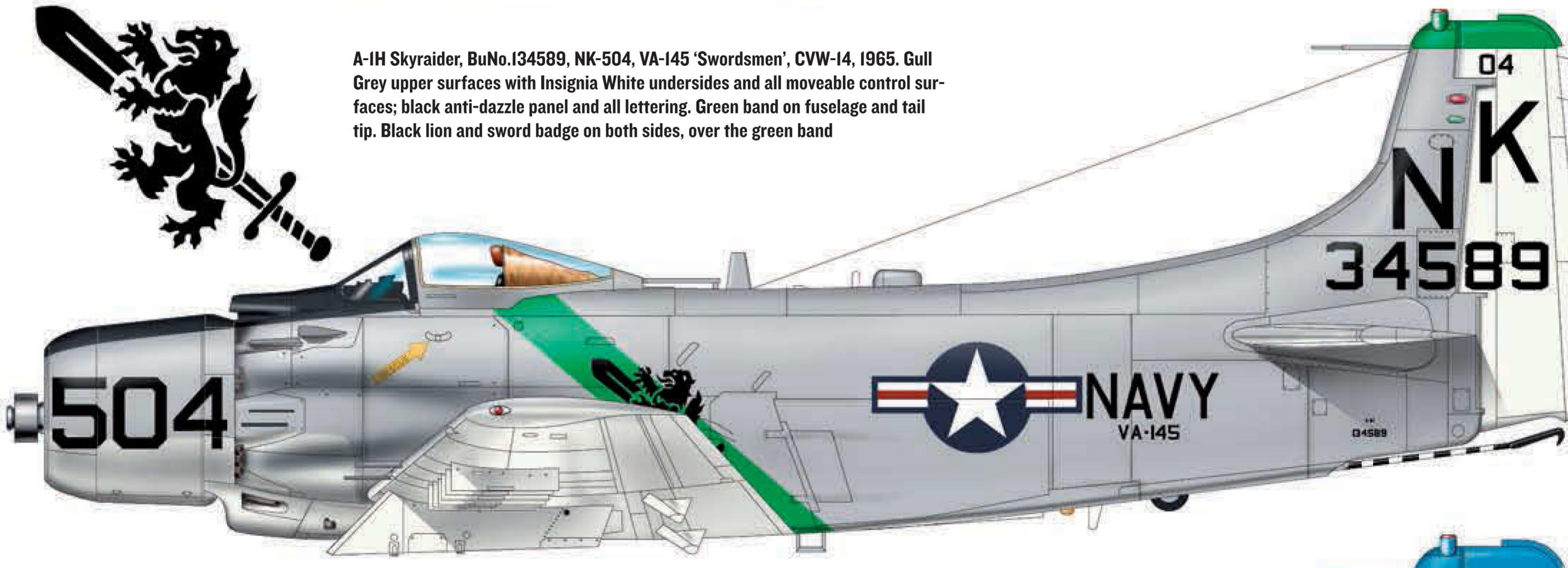


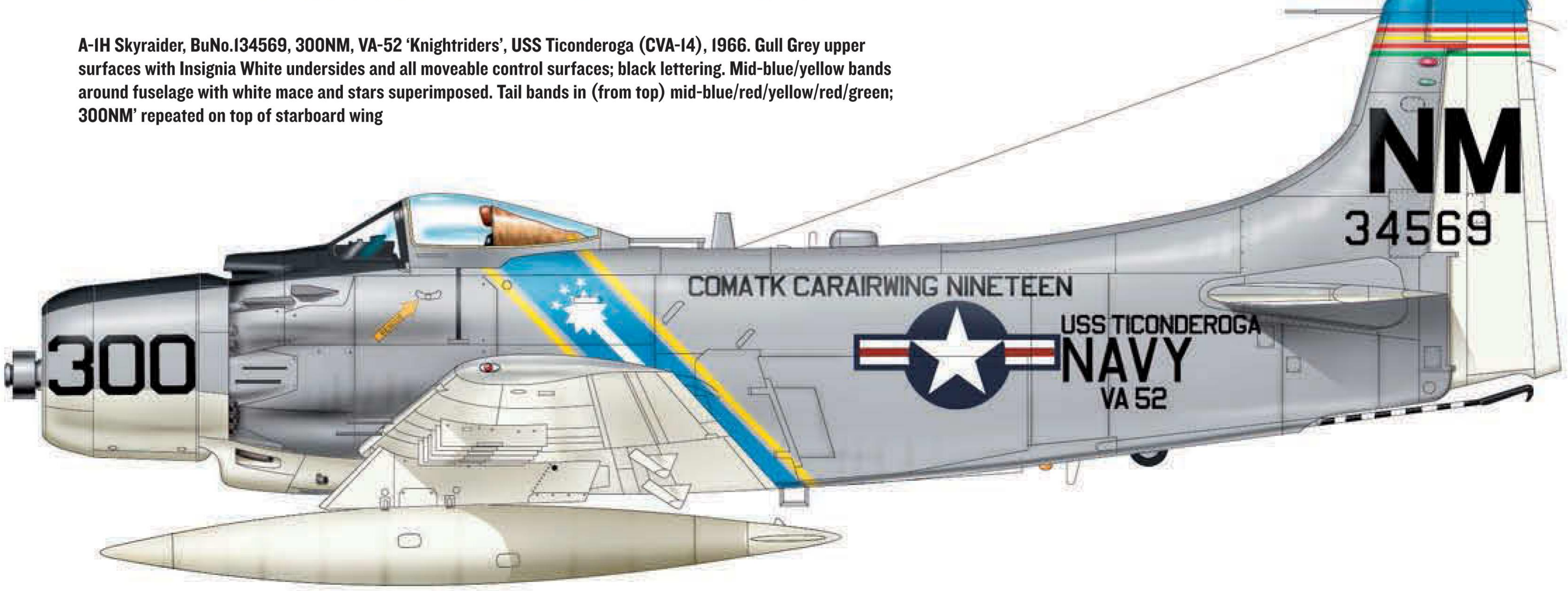

AD-6 (A-1H) Skyraider, BuNo.137560, AJ-505, VA-85 'Black Falcons', USS Forrestal, 1958. Gull Grey upper surfaces with Insignia White undersides and all moveable control surfaces; anti-dazzle panel and all lettering in black, except ship's name which is in red; green trim on rudder and wing tips




AD-6 (A-1H) Skyraider, BuNo.137607, AF-400, VA-65 'Tigers', USS Intrepid (CVA-11), January 1961. Gull Grey upper surfaces with Insignia White undersides and all moveable control surfaces; anti-dazzle panel and all lettering in black. Orange rudder with white stars superimposed; orange flash along fuselage, thinly outlined in white

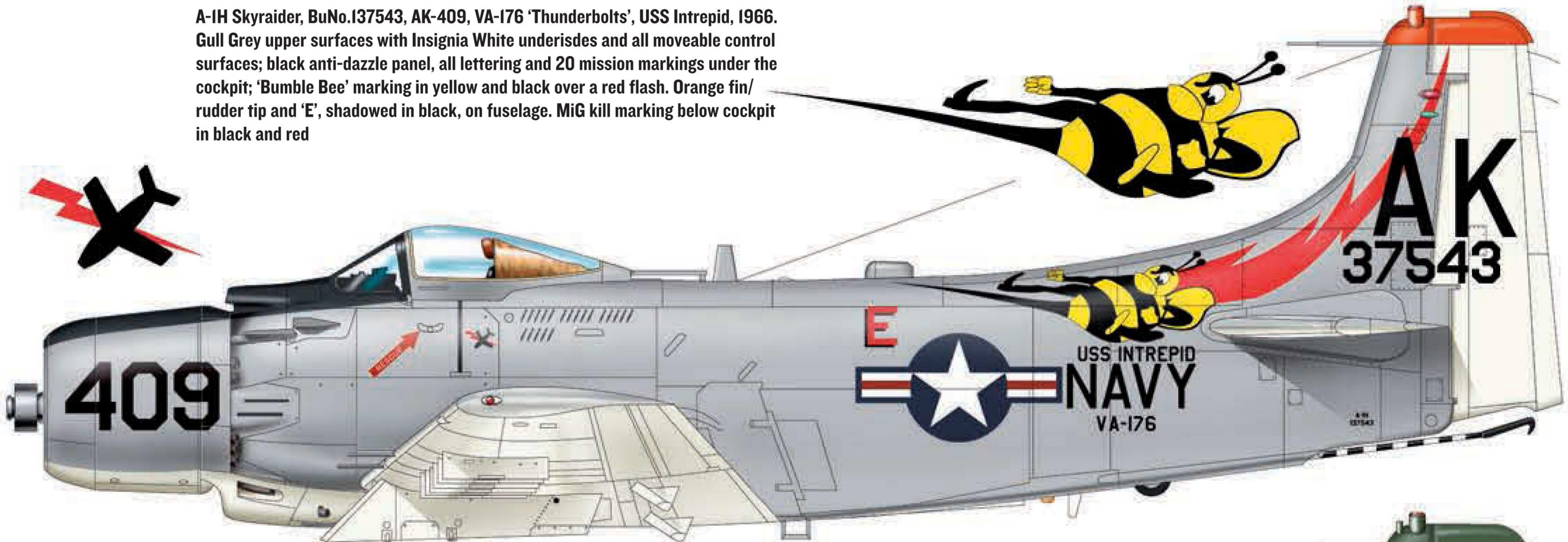



A-1H Skyraider, BuNo.134589, NK-504, VA-145 'Swordsmen', CVW-14, 1965. Gull Grey upper surfaces with Insignia White undersides and all moveable control surfaces; black anti-dazzle panel and all lettering. Green band on fuselage and tail tip. Black lion and sword badge on both sides, over the green band

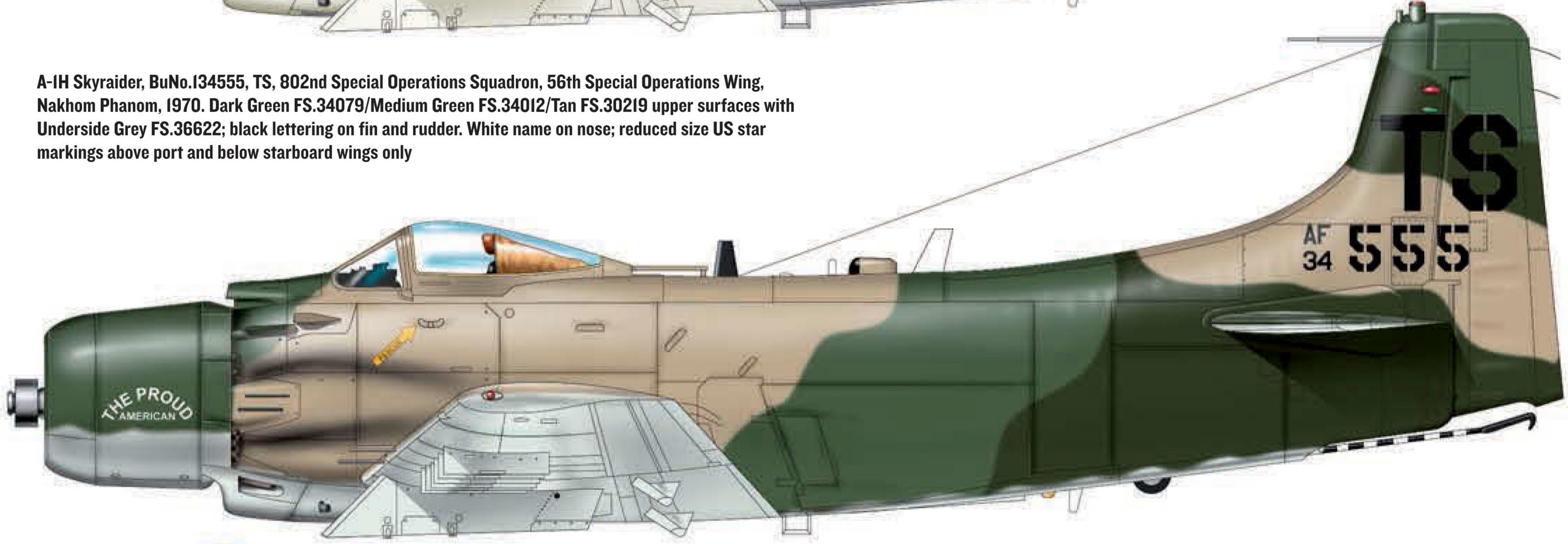



A-1H Skyraider, BuNo.134569, 300NM, VA-52 'Knightriders', USS Ticonderoga (CVA-14), 1966. Gull Grey upper surfaces with Insignia White undersides and all moveable control surfaces; black lettering. Mid-blue/yellow bands around fuselage with white mace and stars superimposed. Tail bands in (from top) mid-blue/red/yellow/red/green; 300NM' repeated on top of starboard wing

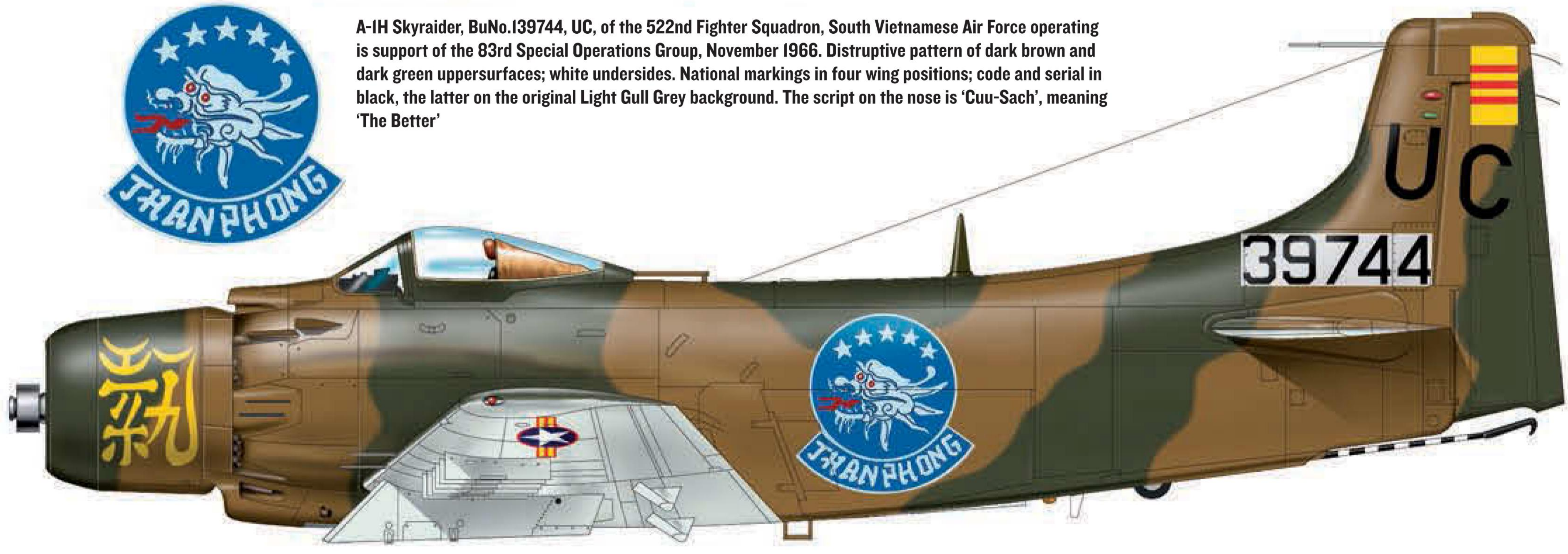
A-1H Skyraider, BuNo.137543, AK-409, VA-176 'Thunderbolts', USS Intrepid, 1966. Gull Grey upper surfaces with Insignia White underisdes and all moveable control surfaces; black anti-dazzle panel, all lettering and 20 mission markings under the cockpit; 'Bumble Bee' marking in yellow and black over a red flash. Orange fin/rudder tip and 'E', shadowed in black, on fuselage. MiG kill marking below cockpit in black and red



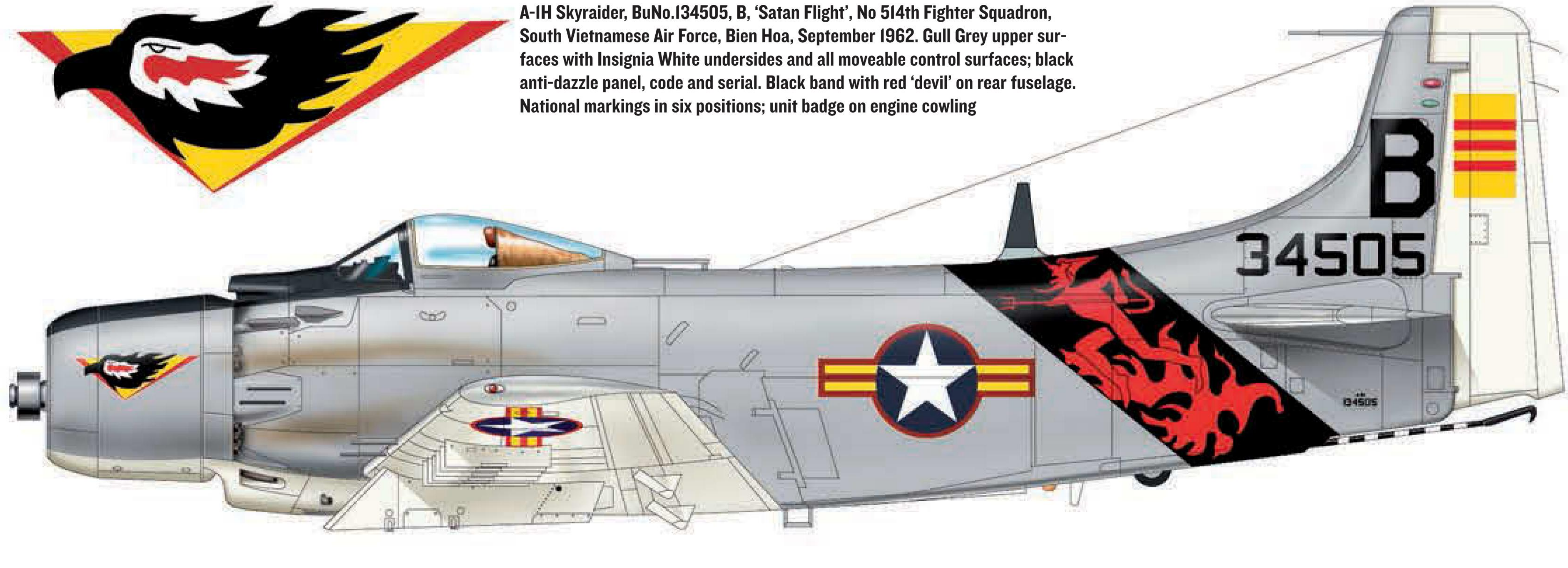

A-1H Skyraider, BuNo.134555, TS, 802nd Special Operations Squadron, 56th Special Operations Wing, Nakhom Phanom, 1970. Dark Green FS.34079/Medium Green FS.34012/Tan FS.30219 upper surfaces with Underside Grey FS.36622; black lettering on fin and rudder. White name on nose; reduced size US star markings above port and below starboard wings only

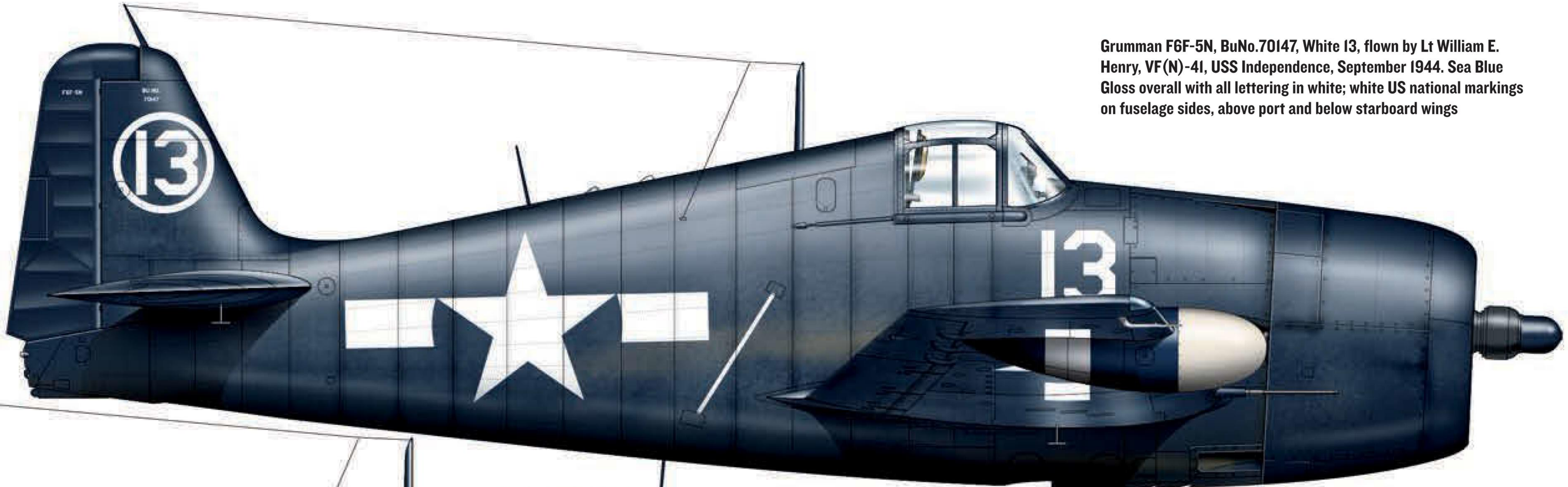



A-1H Skyraider, BuNo.139744, UC, of the 522nd Fighter Squadron, South Vietnamese Air Force operating is support of the 83rd Special Operations Group, November 1966. Distruptive pattern of dark brown and dark green uppersurfaces; white undersides. National markings in four wing positions; code and serial in black, the latter on the original Light Gull Grey background. The script on the nose is 'Cuu-Sach', meaning 'The Better'




A-1H Skyraider, BuNo.134505, B, 'Satan Flight', No 514th Fighter Squadron, South Vietnamese Air Force, Bien Hoa, September 1962. Gull Grey upper surfaces with Insignia White undersides and all moveable control surfaces; black anti-dazzle panel, code and serial. Black band with red 'devil' on rear fuselage. National markings in six positions; unit badge on engine cowling






Grumman F6F-5N, BuNo.70147, White 13, flown by Lt William E. Henry, VF(N)-41, USS Independence, September 1944. Sea Blue Gloss overall with all lettering in white; white US national markings on fuselage sides, above port and below starboard wings

Grumman Hellcat Mk II (F6F-5N), 'KD127X, White X', (BuNo.79015) No.892 Naval Air Squadron FAA, Drem, summer 1945. Sea Blue Gloss overall with all lettering in white. Standard national markings for the period, with Blue/Red roundels above wings and Blue/White/Red roundels below wings. Red propeller hub

Grumman F6F-5N Hellcat, '92', VMF-111 USMC, USS Block Island (CVE-106), April 1945. Sea Blue Gloss overall with all markings in white, except for 'I' and 'M' over the white rectangle on vertical tail surfaces which are in Blue. Name 'Butch' carried on starboard side only

PROFILES:1/48 SCALE

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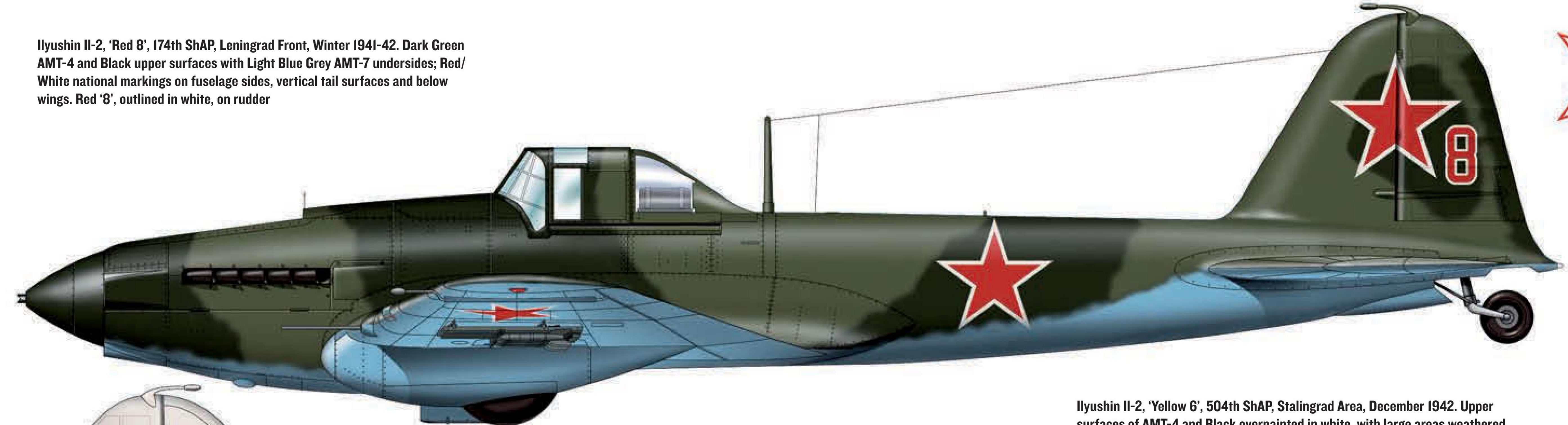
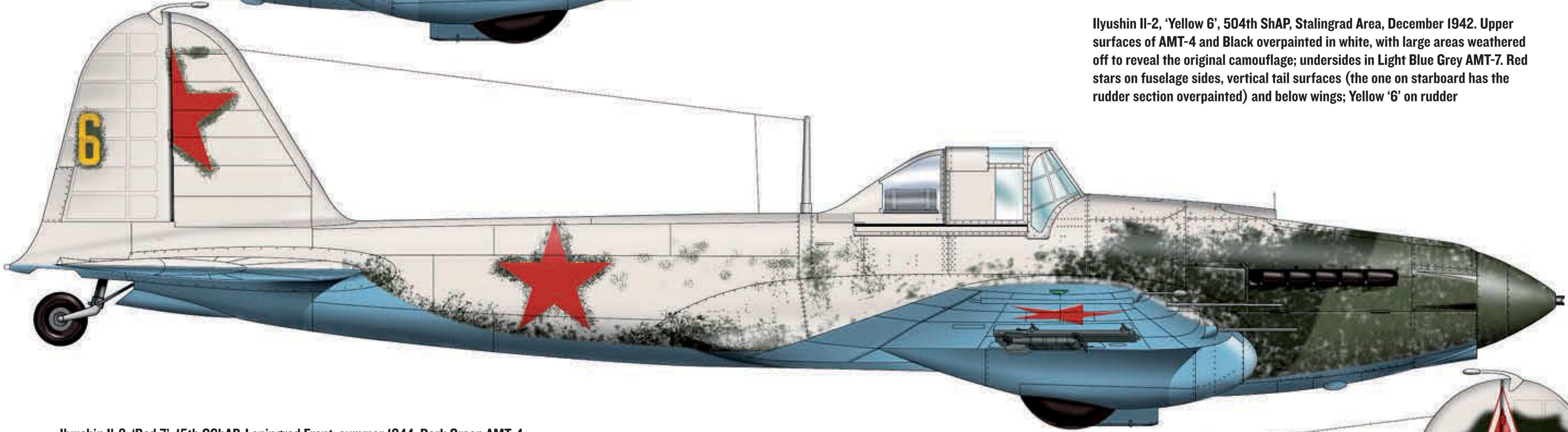
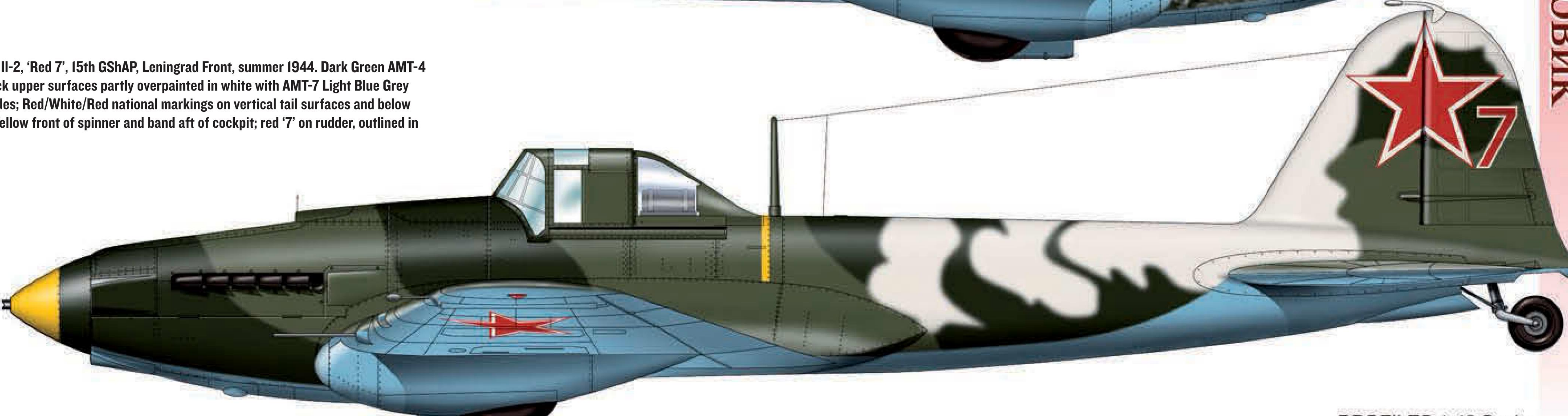
Ilyushin Il-2, 'Red 8', 174th ShAP, Leningrad Front, Winter 1941-42. Dark Green AMT-4 and Black upper surfaces with Light Blue Grey AMT-7 undersides; Red/White national markings on fuselage sides, vertical tail surfaces and below wings. Red '8', outlined in white, on rudder




Ilyushin Il-2, 'Yellow 6', 504th ShAP, Stalingrad Area, December 1942. Upper surfaces of AMT-4 and Black overpainted in white, with large areas weathered off to reveal the original camouflage; undersides in Light Blue Grey AMT-7. Red stars on fuselage sides, vertical tail surfaces (the one on starboard has the rudder section overpainted) and below wings; Yellow '6' on rudder




Ilyushin Il-2, 'Red 7', 15th GShAP, Leningrad Front, summer 1944. Dark Green AMT-4 and Black upper surfaces partly overpainted in white with AMT-7 Light Blue Grey undersides; Red/White/Red national markings on vertical tail surfaces and below wings. Yellow front of spinner and band aft of cockpit; red '7' on rudder, outlined in white

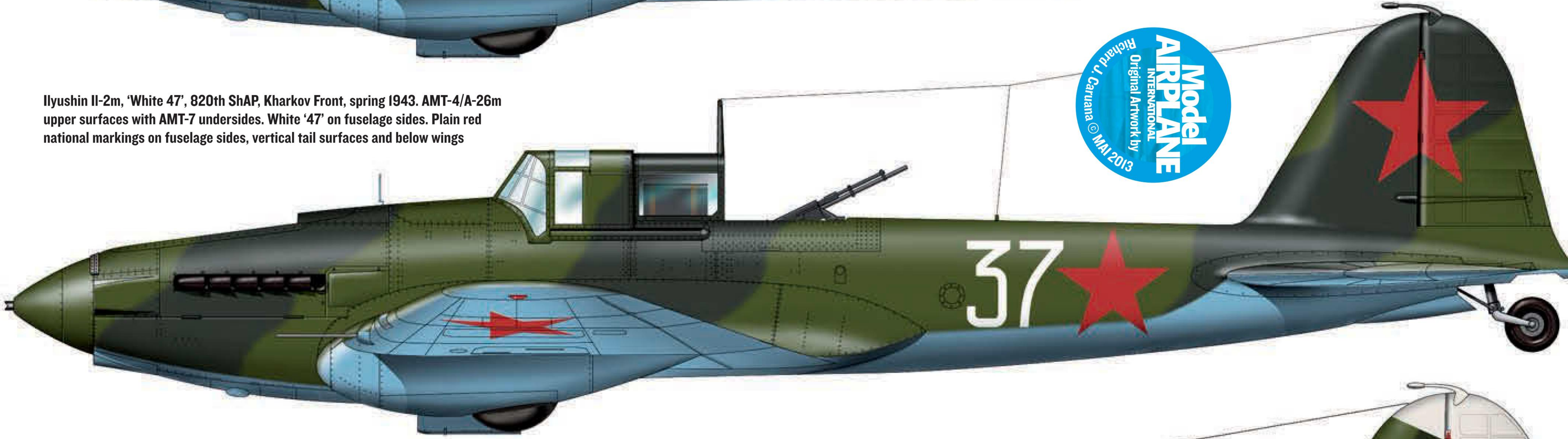



PROFILES 1:48 Scale

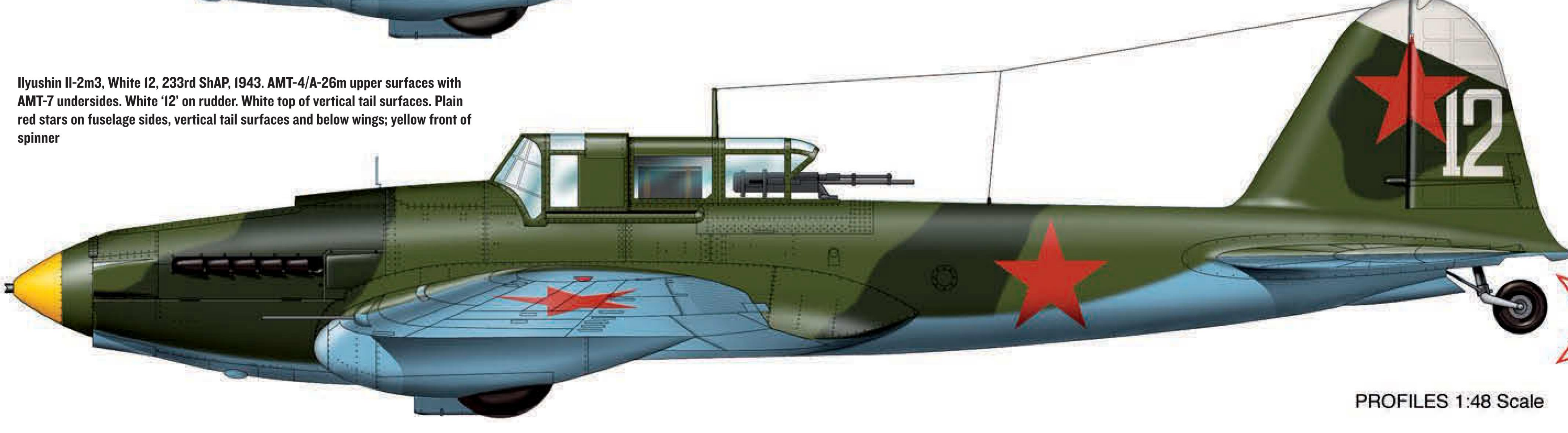
# Ilyushin Il-2 Sturmovik

Ilyushin Il-2m3, Yellow 31, 76th GShAP, Kotelnikovo, 1943. AMT-4/A-26m upper surfaces with AMT-7 undersides; yellow '31' on fin. Red stars outlined in white and red on fuselage sides, vertical tail surfaces and below wings

Ilyushin Il-2m, 'White 47', 820th ShAP, Kharkov Front, spring 1943. AMT-4/A-26m upper surfaces with AMT-7 undersides. White '47' on fuselage sides. Plain red national markings on fuselage sides, vertical tail surfaces and below wings




Ilyushin Il-2m3, White 12, 233rd ShAP, 1943. AMT-4/A-26m upper surfaces with AMT-7 undersides. White '12' on rudder. White top of vertical tail surfaces. Plain red stars on fuselage sides, vertical tail surfaces and below wings; yellow front of spinner

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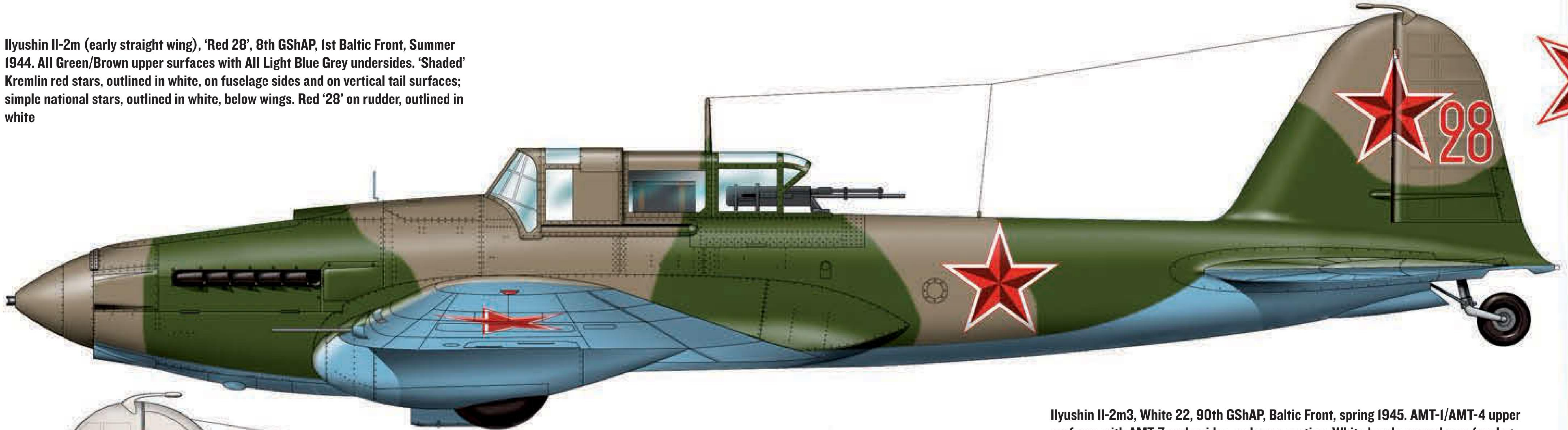
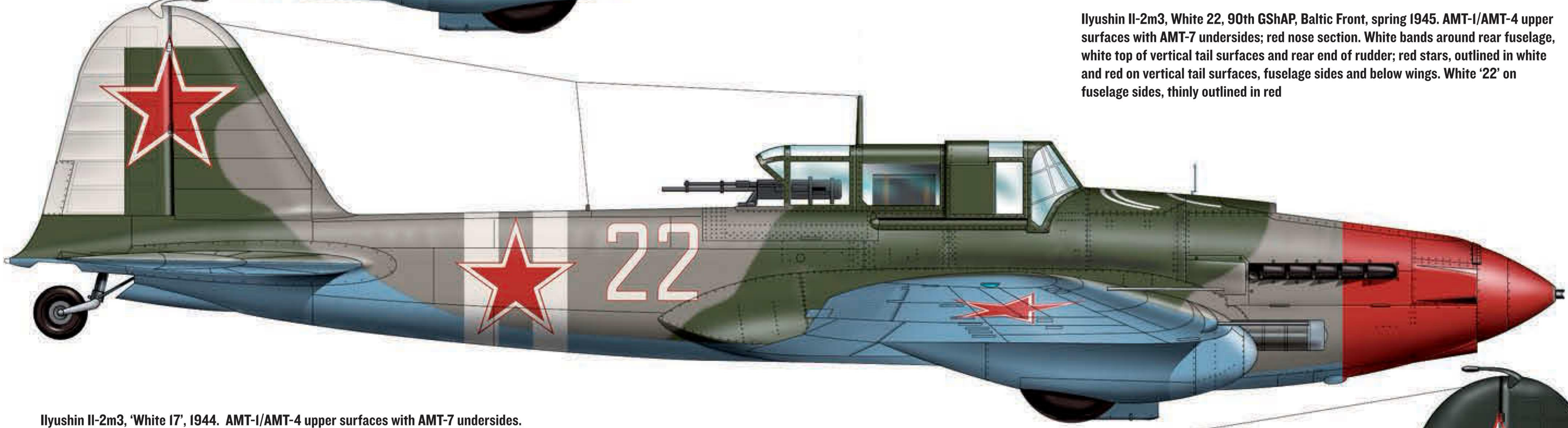
# Ильюшин Ил-2 Штурмовик

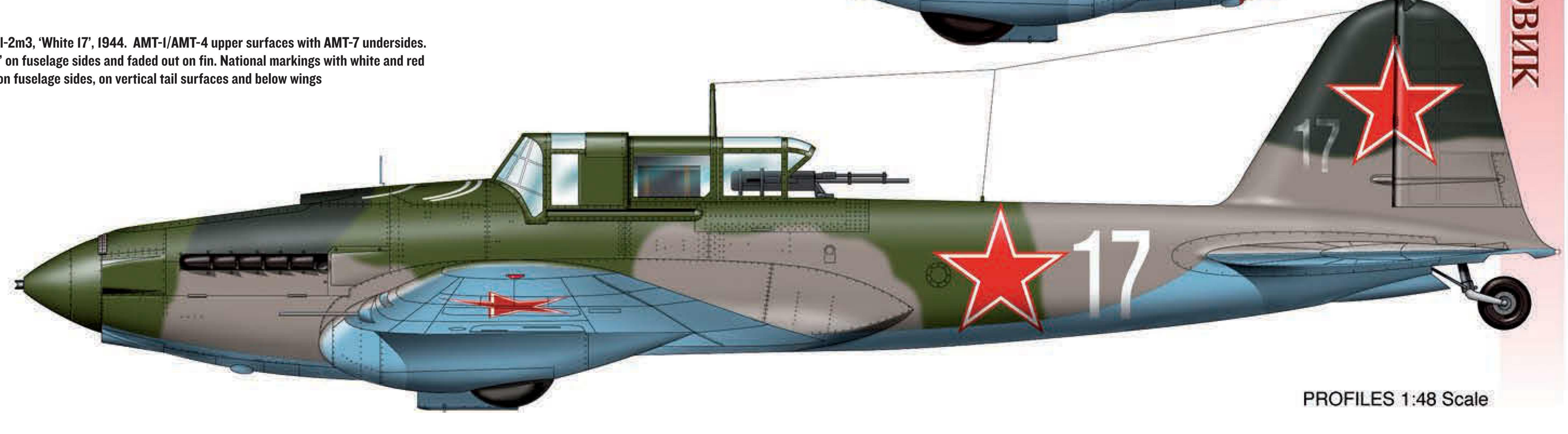
Ilyushin Il-2m (early straight wing), 'Red 28', 8th GShAP, 1st Baltic Front, Summer 1944. All Green/Brown upper surfaces with All Light Blue Grey undersides. 'Shaded' Kremlin red stars, outlined in white, on fuselage sides and on vertical tail surfaces; simple national stars, outlined in white, below wings. Red '28' on rudder, outlined in white




Ilyushin Il-2m3, White 22, 90th GShAP, Baltic Front, spring 1945. AMT-1/AMT-4 upper surfaces with AMT-7 undersides; red nose section. White bands around rear fuselage, white top of vertical tail surfaces and rear end of rudder; red stars, outlined in white and red on vertical tail surfaces, fuselage sides and below wings. White '22' on fuselage sides, thinly outlined in red




Ilyushin Il-2m3, 'White 17', 1944. AMT-1/AMT-4 upper surfaces with AMT-7 undersides. White '17' on fuselage sides and faded out on fin. National markings with white and red outlines on fuselage sides, on vertical tail surfaces and below wings




PROFILES 1:48 Scale

# Ilyushin Il-2 Sturmovik

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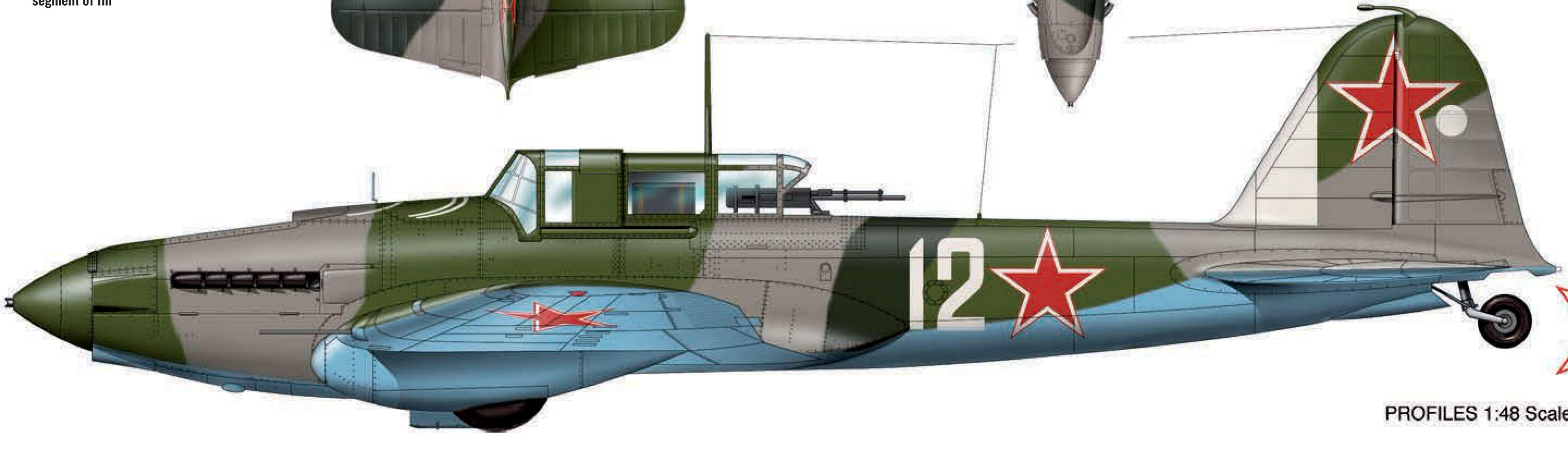
Main view (below left) shows a different pattern in the same colours as the 'White 12' on the right.

Scrap underside wing view shows position of national marking

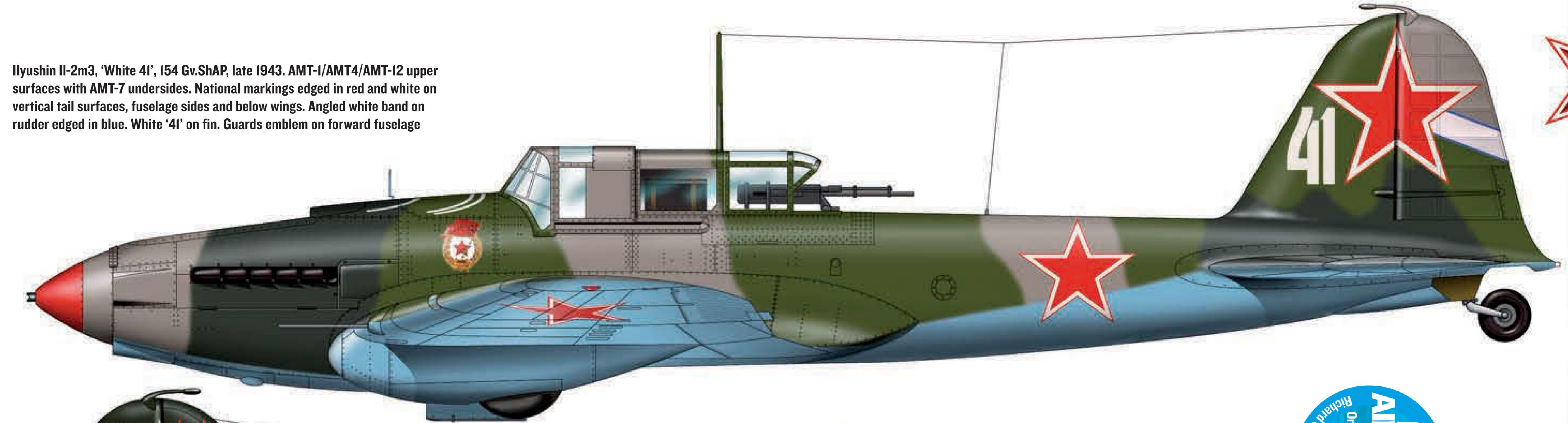
Above and below: Ilyushin Il-2m3, 'White 12', 16th VA, Berlin area, April 1945. AMT-1/AMT4/AMT-12 upper surfaces with AMT-7 undersides; red stars with white and red outlines on vertical tail surfaces, fuselage sides and below wings. '12' in white on fuselage sides, repeated on top of port wingtip; white disc on rudder and front segment of fin



PROFILES 1:48 Scale

# Ильюшин Ил-2 Штурмовик

Ilyushin Il-2m3, 'White 41', 154 Gv.ShAP, late 1943. AMT-1/AMT4/AMT-12 upper surfaces with AMT-7 undersides. National markings edged in red and white on vertical tail surfaces, fuselage sides and below wings. Angled white band on rudder edged in blue. White '41' on fin. Guards emblem on forward fuselage

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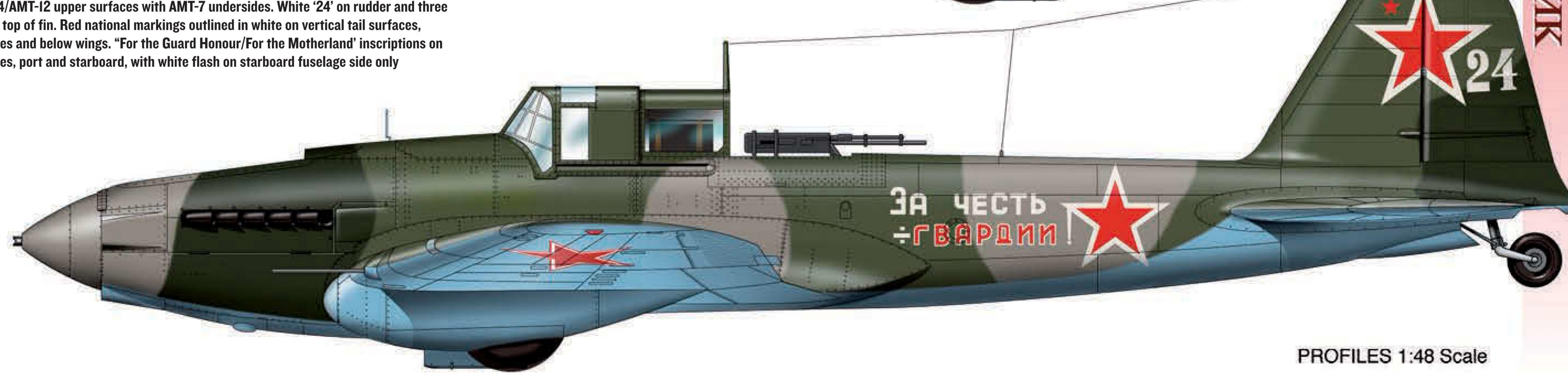
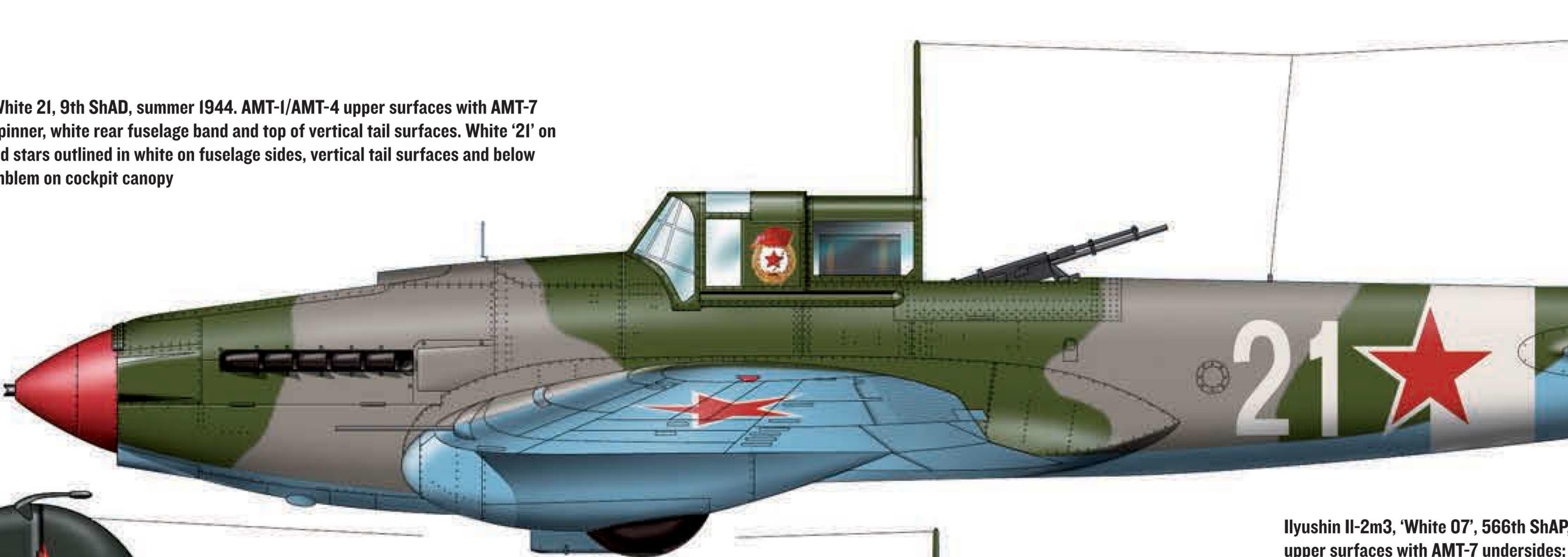
Ilyushin Il-2m3, White 24 (port and starboard views), 8th GvShAP, Saki, Crimea, May 1944. AMT-1/AMT4/AMT-12 upper surfaces with AMT-7 undersides. White '24' on rudder and three red stars on top of fin. Red national markings outlined in white on vertical tail surfaces, fuselage sides and below wings. "For the Guard Honour/For the Motherland' inscriptions on fuselage sides, port and starboard, with white flash on starboard fuselage side only



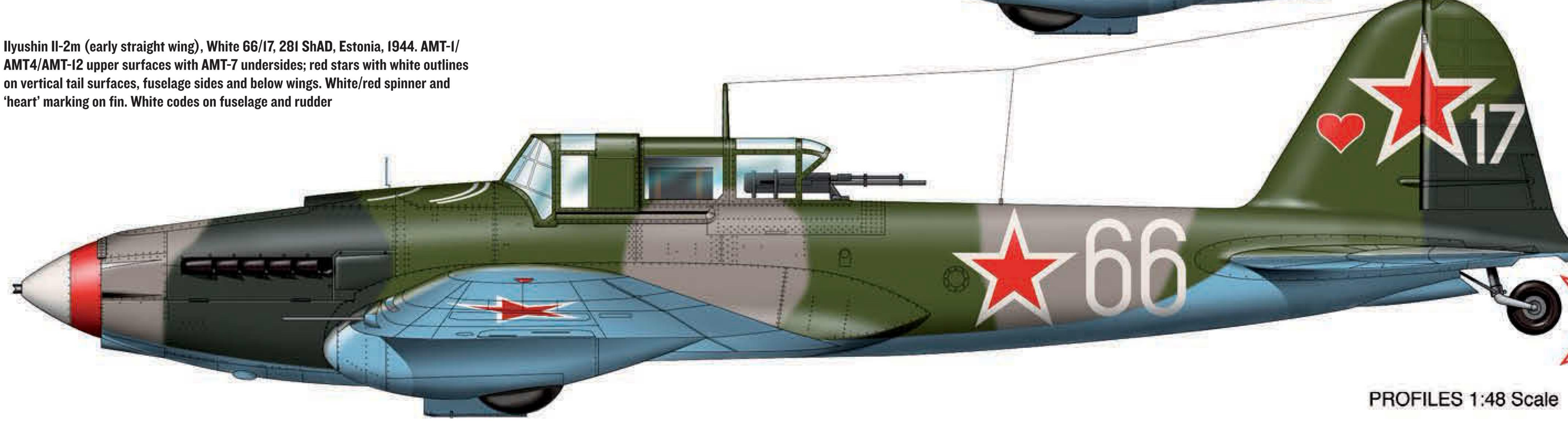

PROFILES 1:48 Scale

Ilyushin Il-2m3, White 21, 9th ShAD, summer 1944. AMT-1/AMT-4 upper surfaces with AMT-7 undersides; red spinner, white rear fuselage band and top of vertical tail surfaces. White '21' on fuselage sides; red stars outlined in white on fuselage sides, vertical tail surfaces and below wings. Guard's Emblem on cockpit canopy




Ilyushin Il-2m3, 'White 07', 566th ShAP, summer 1944. AMT-1/AMT4/AMT-12 upper surfaces with AMT-7 undersides; red stars with white and red outlines on vertical tail surfaces, fuselage sides and below wings. '07' on fin and slogan 'Avenge for Khristenko' on rear fuselage in white. Spinner is black and white. Yellow angled band on vertical tail surfaces. Art on fuselage side (starboard only) carries the slogan 'For Leningrad' in white over red, and shows the skyline of that city. All trim tabs in red

Ilyushin Il-2m (early straight wing), White 66/17, 281 ShAD, Estonia, 1944. AMT-1/AMT4/AMT-12 upper surfaces with AMT-7 undersides; red stars with white outlines on vertical tail surfaces, fuselage sides and below wings. White/red spinner and 'heart' marking on fin. White codes on fuselage and rudder

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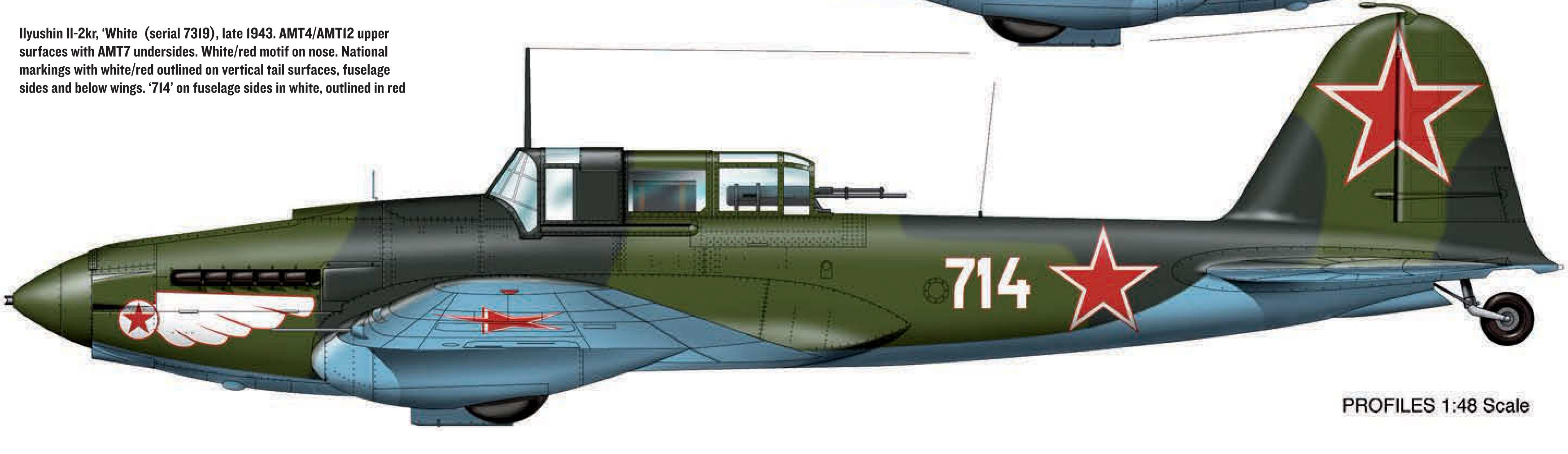
# Ильюшин Ил-2 Штурмовик

Ilyushin Il-2m (early straight wing), unmarked, late 1944. AMT1/AMT4/AMT12 upper surfaces with AMT17 undersides. 'Shaded' Kremlin stars with white outline on vertical tail surfaces and fuselage sides; plain red/white stars below wings. Blue markings with yellow 'sun-burst' and red star over winged yellow disc on nose air intake. Guards badge on canopy sides

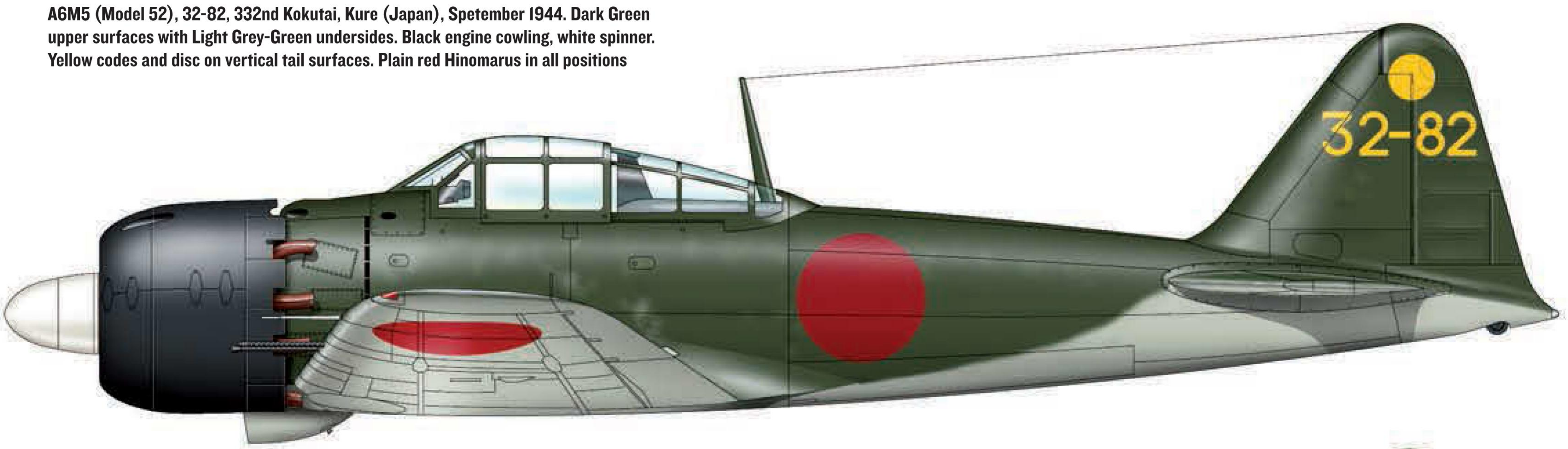
Ilyushin Il-2m3, White '26', 3 ShAP, Prague-Letnany, June 1945. AMT1/AMT4 upper surfaces with AMT7 undersides. White '26' on fin over a previous code '27'. Standard national markings edged in white and red on vertical tail surfaces, fuselage and below wings

Ilyushin Il-2kr, 'White (serial 7319), late 1943. AMT4/AMT12 upper surfaces with AMT7 undersides. White/red motif on nose. National markings with white/red outlined on vertical tail surfaces, fuselage sides and below wings. '714' on fuselage sides in white, outlined in red

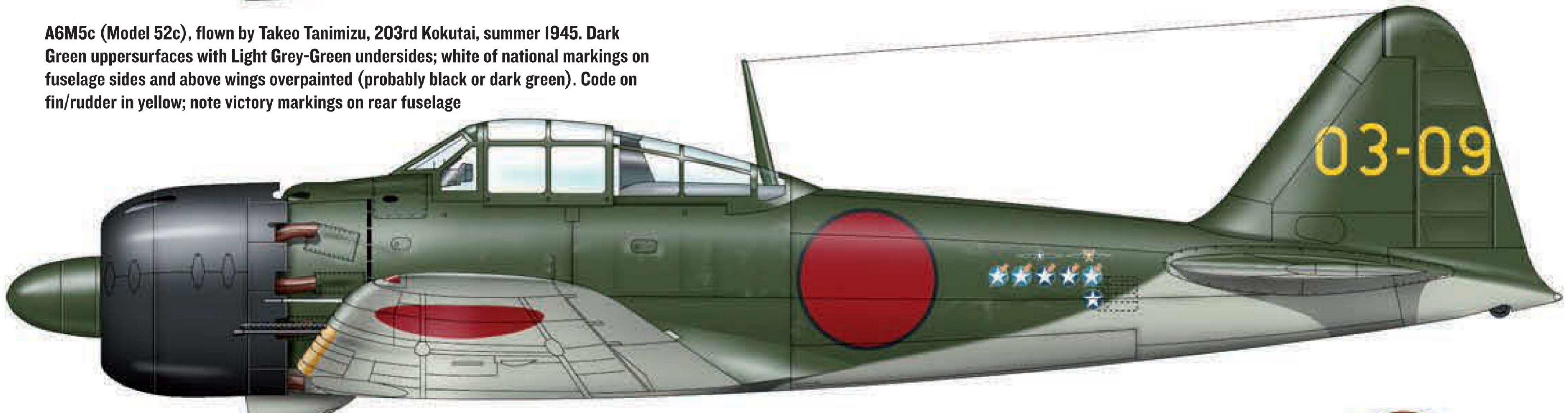



PROFILES 1:48 Scale

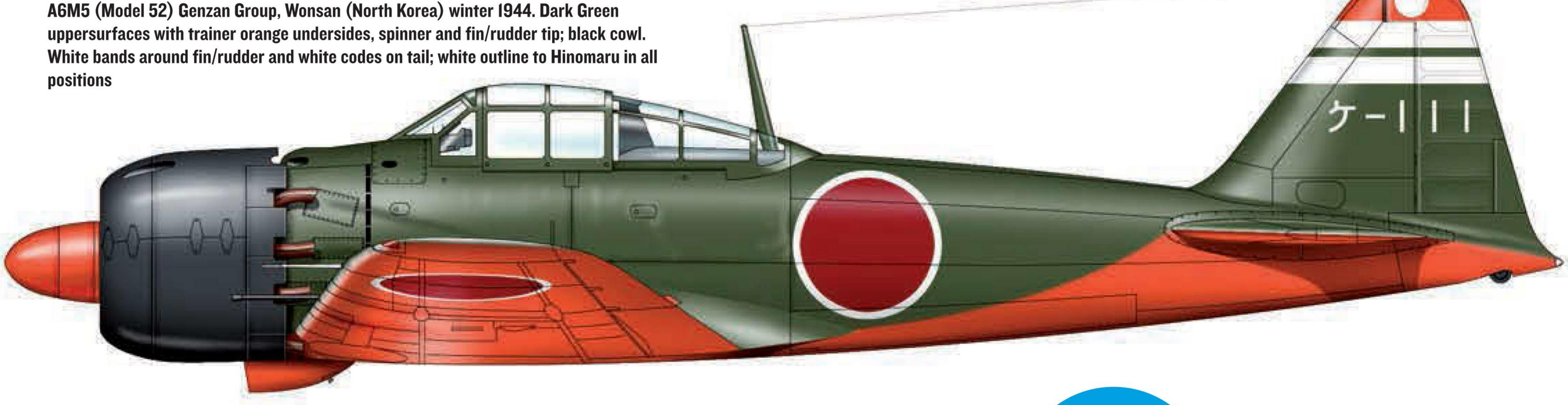
A6M5 (Model 52), 32-82, 332nd Kokutai, Kure (Japan), Spetember 1944. Dark Green upper surfaces with Light Grey-Green undersides. Black engine cowling, white spinner. Yellow codes and disc on vertical tail surfaces. Plain red Hinomarus in all positions




A6M5c (Model 52c), flown by Takeo Tanimizu, 203rd Kokutai, summer 1945. Dark Green uppersurfaces with Light Grey-Green undersides; white of national markings on fuselage sides and above wings overpainted (probably black or dark green). Code on fin/rudder in yellow; note victory markings on rear fuselage




A6M5 (Model 52) Genzan Group, Wonsan (North Korea) winter 1944. Dark Green uppersurfaces with trainer orange undersides, spinner and fin/rudder tip; black cowl. White bands around fin/rudder and white codes on tail; white outline to Hinomaru in all positions




A6M5 (Model 52c), 236, T.A.I.C. II, one of captured examples used by the Technical Air Intelligence Unit for evaluation purposes during testing in RAF style markings. Natural metal overall with black anti-dazzle panel. All lettering in black. Yellow/Blue/White/Red roundels on fuselage sides, Blue/Red roundels above and below wings

Model AIRPLANE INTERNATIONAL
Original Artwork by
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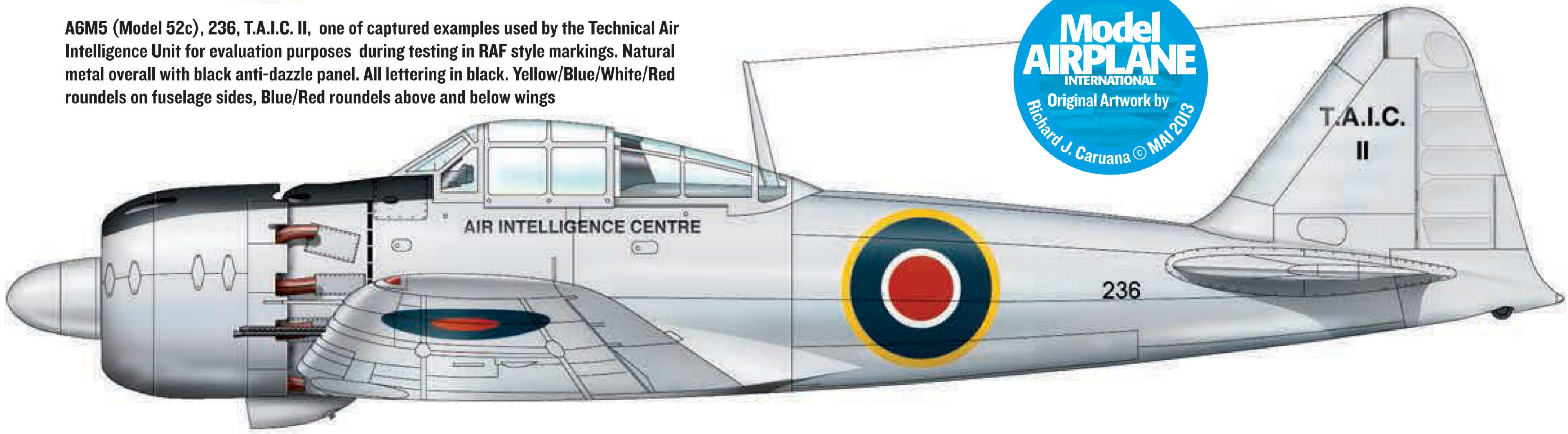
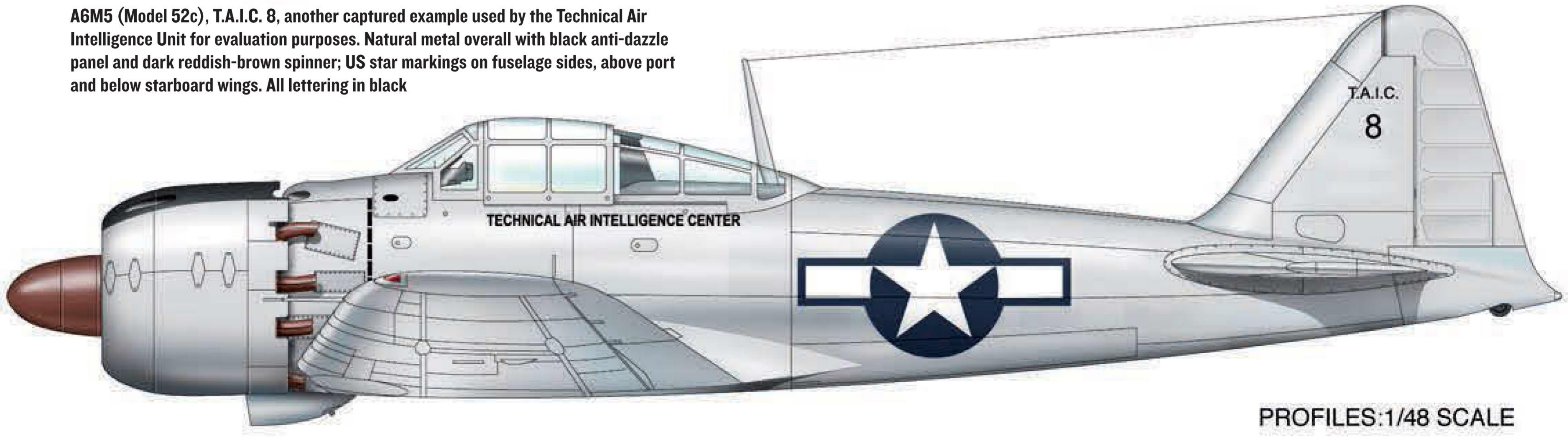



A6M5 (Model 52c), T.A.I.C. 8, another captured example used by the Technical Air Intelligence Unit for evaluation purposes. Natural metal overall with black anti-dazzle panel and dark reddish-brown spinner; US star markings on fuselage sides, above port and below starboard wings. All lettering in black

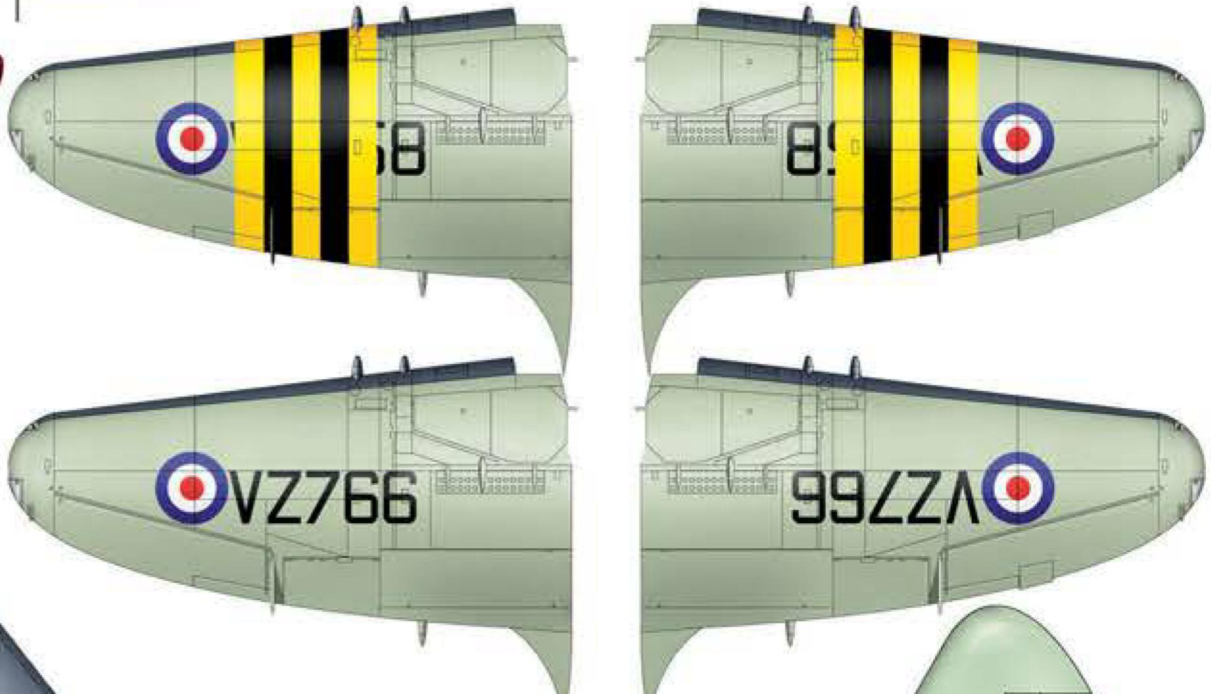



PROFILES:1/48 SCALE

# R.J. CARUANA ARTWORK - EDITOR'S SELECTION

## Westland Wyvern; Issue 1

Westland Wyvern S.4, VZ758/J-376, No.830 NAS FAA, Suez, 1956. Extra Dark Sea Grey upper surfaces with Sky undersides. Maroon spinners and finlets; yellow/black bands around fuselage and wings. All lettering in black

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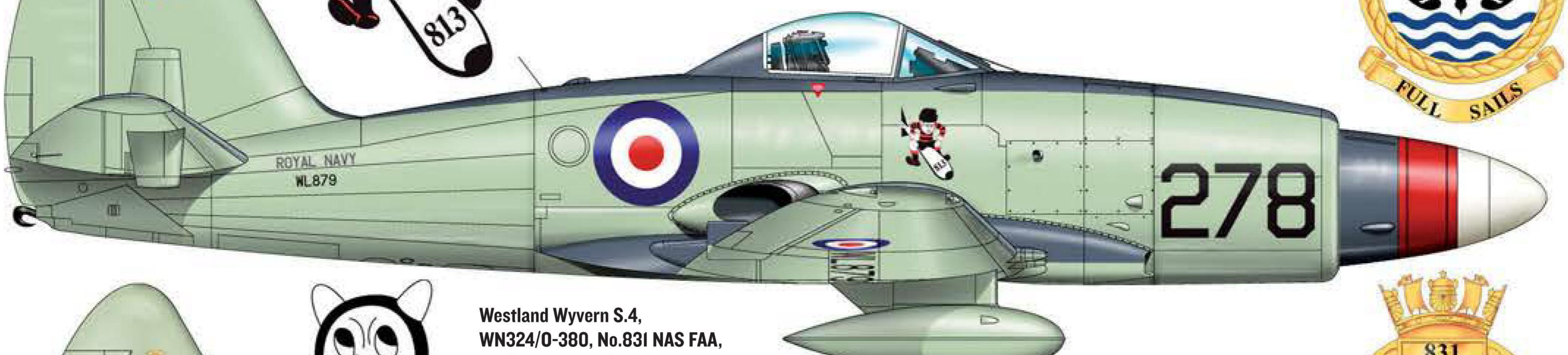
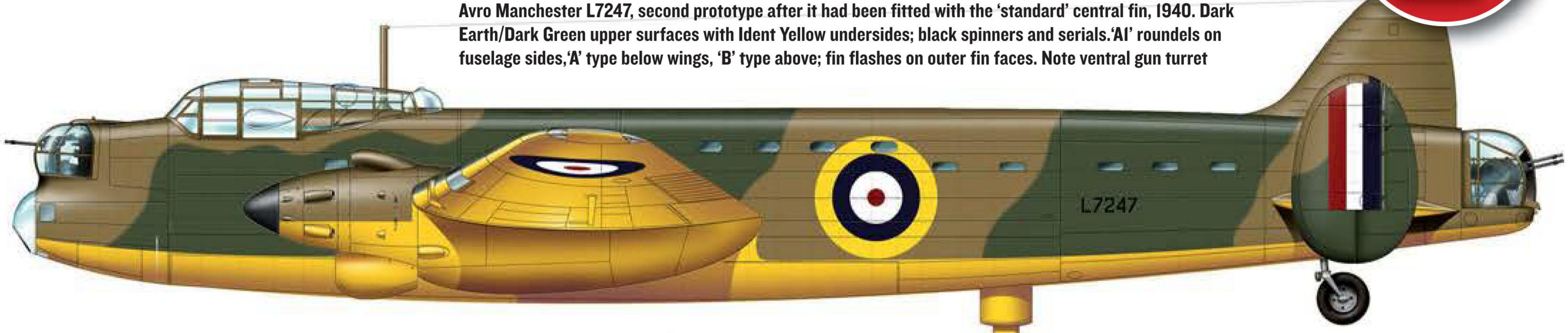
Westland Wyvern S.4, VZ766/273, No.813 NAS FAA, 1957. Extra Dark Sea Grey upper surfaces with Sky undersides. White/blue spinner; all lettering in black

Westland Wyvern S.4, WL879/E-278, No.813 NAS FAA, HMS Eagle, 1958. Extra Dark Sea Grey upper surfaces with Sky undersides. White/Red/Exta Dark Sea Grey spinner; 'Dennis the Menace' motif on fuselage (this side only) and unit badge on fin. All lettering black




Westland Wyvern S.4, WN324/O-380, No.831 NAS FAA, HMS Ark Royal, 1957. Extra Dark Sea Grey upper surfaces with Sky undersides. Red spinners. 'Flook' motif on starboard only; unit crest on both sides of fin

Avro Manchester L7247, second prototype after it had been fitted with the 'standard' central fin, 1940. Dark Earth/Dark Green upper surfaces with Ident Yellow undersides; black spinners and serials.'AI' roundels on fuselage sides,'A' type below wings, 'B' type above; fin flashes on outer fin faces. Note ventral gun turret




Avro Manchester B. Mk.I, L7284/EM•D, No.207 Squadron, RAF Waddington, November 1940. Dark Earth/Dark Green upper surfaces with Night under- sides; codes and serials in Medium Sea Grey. 'AI' roun- dels on fuselage sides, 'B' type above wings

Avro Manchester B. Mk.I, L7380/EM•W, No.207 Squadron, RAF Waddington, 1941. Dark Earth/Dark Green uppersurfaces with Night undersides; codes in Medium Sea Grey, serials in Ident Red.'AI'roundels on fuselage sides,'B' type above wings

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Avro Manchester B Mk IA, L7463/OF•P 'Jill', No.97 Squadron, RAF Coningsby, November 1941. Dark Earth/ Dark Green upper surfaces with Night undersides; codes in Medium Sea Grey, serials in Ident Red. 'SRI.GAJAH' (elephant – aircraft of this squadron carried animal names),' Jill' and mission tally in white

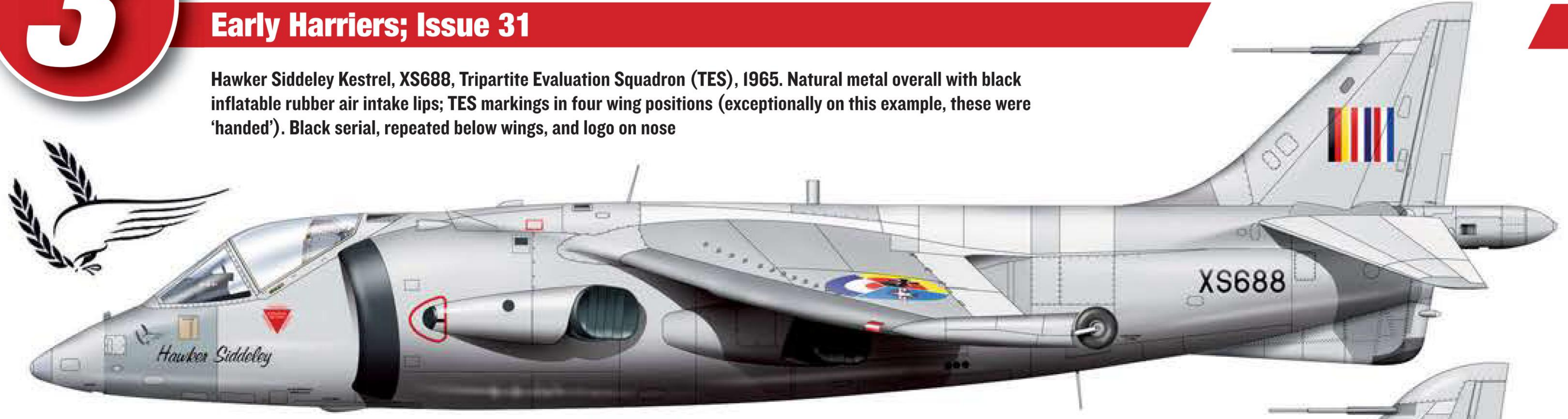
Avro Manchester B Mk I, L7472/OL•Q, No.83 Squadron, RAF Scampton, March 1942. Dark Earth/Dark Green upper sur- faces with Night undersides; Medium Sea Grey codes, Ident Red serials. 'AI' roundels on fuselage sides, 'B' type above wings. Note ten mission markings in red on nose; lost dur- ing a raid over Hamburg, 8/9 April, 1942

Avro Manchester B Mk I, L7471/ZN•V, No.106 Squadron, RAF Coningsby, May 1942. Dark Earth/ Dark Green upper surfaces with Night undersides; Medium Sea Grey codes, Ident Red serials. 'AI' roundels on fuselage sides, 'B' type above wings

# 3 R.J. CARUANA ARTWORK - EDITOR'S SELECTION

## Early Harriers; Issue 31

Hawker Siddeley Kestrel, XS688, Tripartite Evaluation Squadron (TES), 1965. Natural metal overall with black inflatable rubber air intake lips; TES markings in four wing positions (exceptionally on this example, these were 'handed'). Black serial, repeated below wings, and logo on nose




Hawker Siddeley Kestrel, XS693/3, Tripartite Evaluation Squadron, 1965. Natural metal overall with TES markings in four wing positions; serial in black, repeated below wings. '3' in black on nose

Hawker Siddeley Harrier GR Mk I, XV277, Dunsfold, 1969. Dark Sea Grey/Dark Green/Light Aircraft Grey finish with national markings in bright colours; 36" diameter roundels above and below wings, 24" diameter roundels on air intakes. Black serial, repeated below wings

Model AIRPLANE INTERNATIONAL Original Artwork by Richard J. Caruana © MAI 2013

Hawker Siddeley Harrier GR Mk I, XV279, Dunsfold, 1969. Dark Sea Grey/Dark Green/Light Aircraft Grey finish with national markings in bright colours; 36" diameter roundels above and below wings, 24" diameter roundels on air intakes. Black serial, repeated below wings. Unpainted nose cone and parachute tail housing

Hawker Siddeley Harrier GR Mk I, XV755, Harrier Conversion Team, displayed at Biggin Hill, 19 September 1969. Gloss Dark Sea Grey/Dark Green/Light Aircraft Grey finish with national markings in red/white/blue; roundels in six positions. Serial in black, repeated below wings; RAF Wittering crest on fin

Hawker Siddeley Harrier GR Mk I, XV783, No.1 Squadron, Wittering, 1969. Gloss Dark Sea Grey/Dark Green/Light Aircraft Grey finish with national markings in red/white/blue; roundels in six positions. Serial in black, repeated below wings; unit badge, flanked by red/white arrowheads, on nose. RAF Wittering crest on fin

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# R.J. CARUANA ARTWORK - EDITOR'S SELECTION

## Fiat G.55; Issue 42

Fiat G.55 Centauro Serie I (Sottoserie 0), MM.91059/353-12, 353^ Squadriglia, 20º Gruppo, 51º Stormo CT, Regia Aeronautica, CiampiNo.(Rome), August 1943. Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaro undersides; white rear fuselage band and cross on rudder. Codes in light blue and red, serial block in yellow

Fiat G.55 Centauro, MM.592, 2nd prototype, Aeritalia late 1942. Verde Oliva Scuro/Nocciola Chiaro upper surfaces with Grigio Azzurro Chiaro undersides; black spinner, white rear fuselage band and cross on rudder. Black fasces markings in all four wing positions; black serial

Fiat G.55 Centauro Serie I, MM.91097/5, Squadriglia Complementare Montefusco-Bonet, Venaria Reale (Turin), April 1944. Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaro undersides; black/white fasces markings above and below wings. Yellow code and serial block; '5' repeated on nose in yellow; red front of spinner. 'Bonet' motif in white on nose

Model AIRPLANE INTERNATIONAL
Original Artwork by
Richard J. Caruana © MAI 2013


Fiat G.55 Centauro Serie I, MM.91088/4, flown by Ten. Vittorio Pignati di Morano, 2º Gruppo Caccia, Aviazione Nazionale Repubblicana, Bresso, April 1944. Verde Oliva Scuro/Grigio Azzurro Chiaro finish; yellow codes and serials block. Wing markings in black and white, above and below wings; Diavolo Rosso badge on nose

Fiat G.55 Centauro Serie I, MM.91147/21, 3^ Squadriglia, 1º Gruppo Caccia 'Bonet', Aviazione Nazionale Repubblicana, July 1944. Nocciola Chiaro/Verde Oliva Scuro upper surfaces with Grigio Azzurro Chiaro undersides. Light blue/white codes, light blue/yellow serial block; light blue lettering on fin. White spinner with black backplate and spiral; white 'Bonet' motif above codes

Fiat G.55 Centauro Serie I, Black 7 (MM unknown), flown by Cap. Ugo Drago, 1^ Squadriglia, 2º Gruppo Caccia, Aviazione Nazionale Repubblicana, Cascina Vaga, May 1944

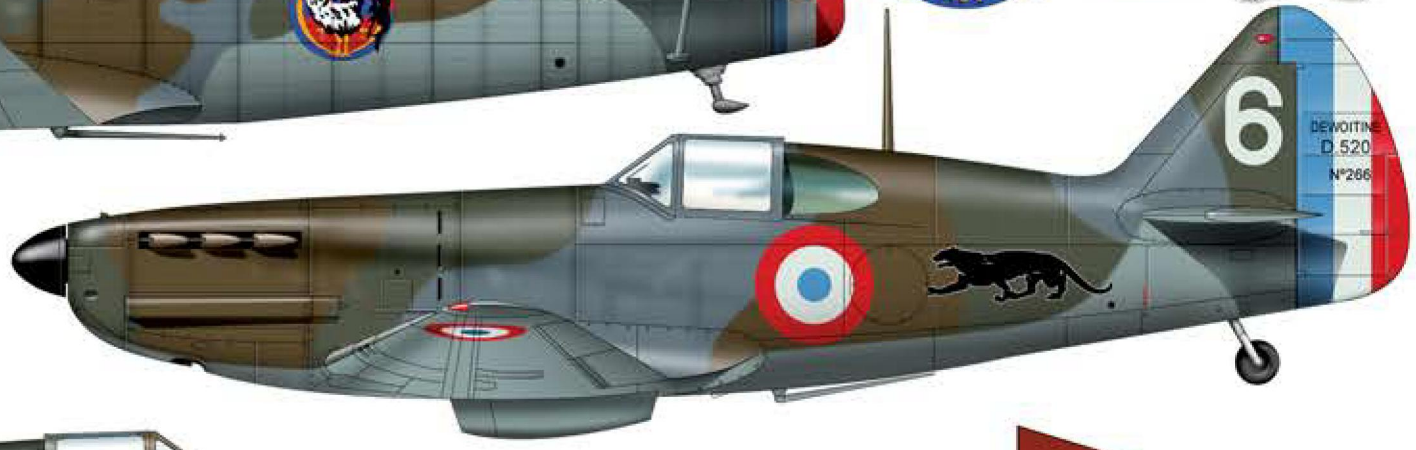
Above: Fiat G.55 Centauro Serie I, MM.91091-8, 4^ Squadriglia, 2º Gruppo Caccia, Aviazione Nazionale Repubblicana, Bresso, May 1944. Upper surfaces in a splinter-style scheme of sand, green and brown with Grigio Azzurro Chiaro undersides; yellow code and serial block

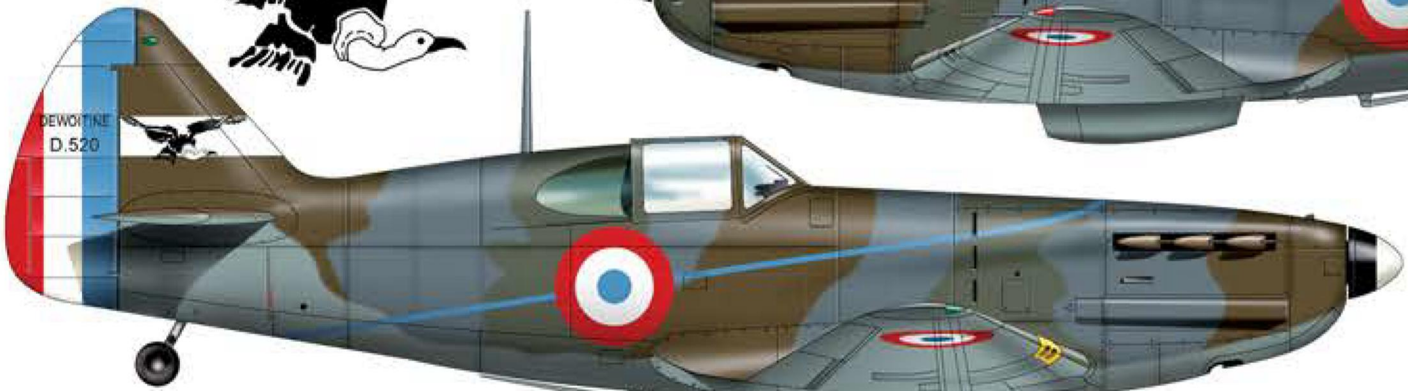
Profiles 1:72 Scale

Fiat G.55 Centauro Serie I, MM. unknown/Black6, 1^ Squadriglia, 2° Gruppo Caccia, Aviazione Nazionale Repubblicana, Cascina Vaga (Pavia), May 1944. RLM 76 overall with RLM74/75 upper surfaces; wing markings in black only. White fuselage band; black/white code

Hawker Hurricane Mk I, P2575/J, No.73 Squadron RAF, Rouvres (France), March 1940. Dark Earth/Dark Green upper surfaces; Aluminium underside of fuselage; Night port and white starboard wing and tailplane undersides. Medium Sea Grey code, Night serial; blue/white/red roundels on fuselage sides and below wings. Red/white/blue rudder; Night spinner. Blue/red roundels above wings

Bloch MB.151, No.98/6, GC II/10, Armée de L'Air, Rouen-Boos, early March 1940. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces and Gris Bleu Clair undersides; white '6' on fin. Code 'Y5' below starboard and '85' below port wings in black; unit badge on fuselage sides

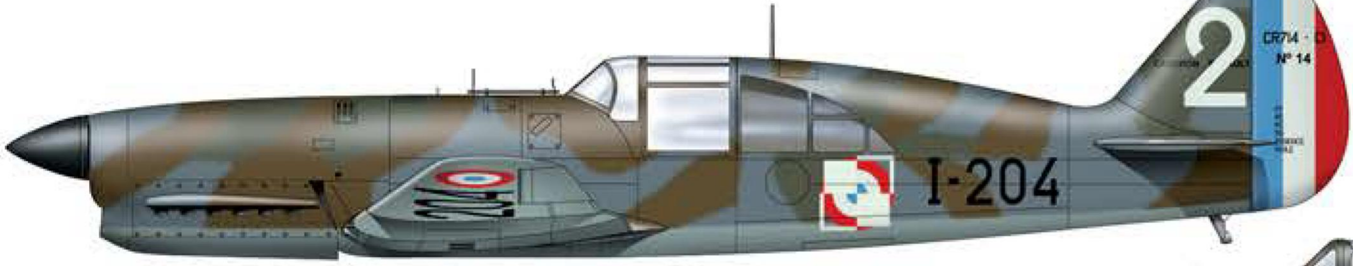




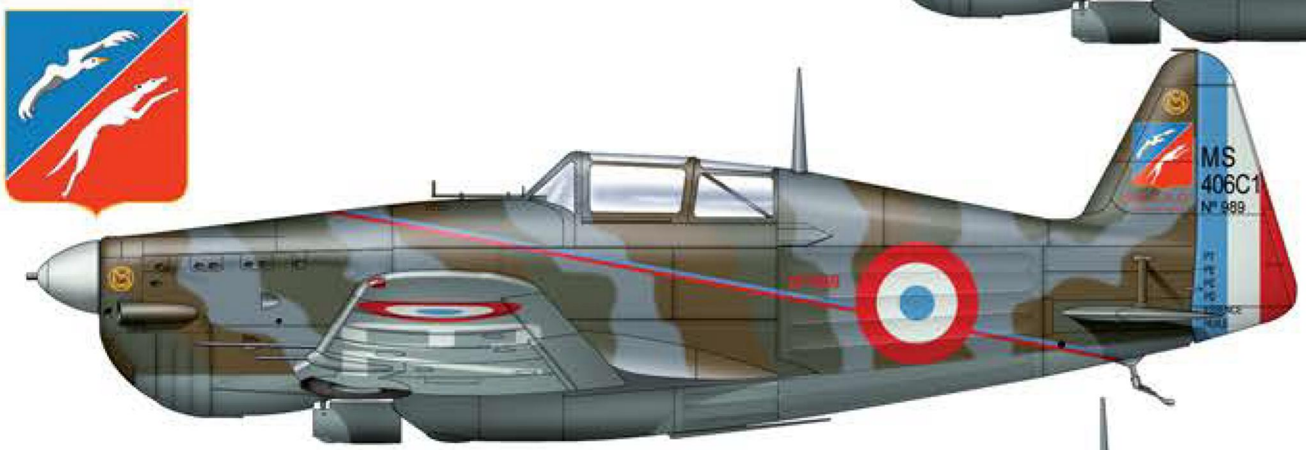
Above Right: Dewoitine D.520, No.266/6, flown by Sub Lt René Pomier Leyrargues of GC II/7, June 1940. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces with Gris Bleu Clair undersides; white '6' on fin and unit badge on fuselage sides (outlined in white). This pilot shot down Werner Molders on 5 June 1950 but was shot down and killed minutes later

Above: Dewoitine D.520, flown by Adj. Chef Marie Emile Leblanc, Relizanne, June 1940. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces and Gris Bleu Clair undersides; black/white spinner. French Blue stripe along fuselage sides; black/white spinner.

Curtiss 75A-2 Hawk, No. 217/2, flown by Edmond Marin La Meslée of GC I/5, Armeè de l'Air, May 1940. Vert Foncé, Terre Foncé and Gris Bleu Foncé upper surfaces with Gris Bleu Clair undersides; white '2' within a red disc on fin; 'Champagne' badge on fuselage sides




Caudron CR.714 Cyclone, No.14 GC I//145 Armée de l'Air, Dreux, June 1040. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces and Gris Bleu Clair undersides; white '2' on fin, all other lettering in black. Code 'I-' below starboard and '204' below port wings in black; partially painted Polish marking over French roundel on fuselage sides




Morane-Saulnier MS.406C1, No.806/1, flown by Cpt Pierre Bouvarre, 6e Escadrille, GC III/7, Vitry-le-François, April 1940. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces and Gris Bleu Clair undersides; black '1' over yellow disc on fin. Code 'L-8' below starboard and '35' below port in white; 'Micahelangelo's Fury' on fuselage sides. Bullet holes received during an encounter with Bf109Es on 31 March marked wih white 'swastikas'; '1' in white repeated above port wing

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Morane-Saulnier MS.406C1, No.989, flown by Cdt Jules Morlat, commander of GC II/3 Armée de l'Air, Connantre, April 1940. Standard camouflage colours. Red/French Blue band across fuselage sides; code 'L5' below starboard and '79' below port wings in white. Unit badge on fin

Potez 631, No.73/8, ECN I/13 Armée de l'Air, Meaux-Esbly, April 1940. Vert Foncé/Terre Foncé/Gris Bleu Foncé upper surfaces and Gris Bleu Clair undersides. Unit badge on nose; code 'X-6' below starboard and '44' below port wings in black. This was one of the units assigned to the defence of Paris in May 1940

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

# R.J. CARUANA ARTWORK - EDITOR'S SELECTION

## SAAB Viggen; Issue 67

**Top of Page: SAAB JA 37 Viggen, 37308/48-FC, Försökscentralen (Test Centre), Malmslätt, summer 1985. Splinter camouflage of 093M Black Green, 326M Dark Green, 322M Medium Green and 507M Tan upper surfaces with 058M Blue Grey underside; Dayglo '48' on fin, yellow 'FC' on nose. Unit badge on top of fin**

**Second from Top & Plan View: SAAB JA 37 Viggen, 37344/32-17, F.17, Ronneby, 1992. Splinter camo scheme; dayglo triangle and '32' on fin, the latter repeated above the wing; yellow '17' on nose. Unit crest over a white disc on top of fin**

**Bottom: SAAB SF37 Viggen, 37953/06-13, F.13 (Division 1), Norrköping, 1986. Splinter camo Scheme; dayglo '06' on fin, yellow '13' on nose. Unit badge on fin top**

**Below, Top to Bottom: SAAB JA 37 Viggen, 08-4, F.4, Östersund-Frösön. Light Ghost Grey FS.36375 upper surfaces with Light Grey FS.36495 undersides; Dayglo and triangle '08' on fin ('08' repeated also in Dayglo above the wings), black '4' on nose. Unit badge on top of fin**

**SAAB JA 37 Viggen, 37410/p10-16, F.16 (Division 3), Uppsala, 2003. Light Ghost Grey/Light Grey scheme; red vertical tail surfaces. Division 3 badge aft of cockpit**

**SAAB JA 37 Viggen, 37394/47-17, F.17, Ronneby, 2002. Same scheme as above. Dayglo triangle and '47' on fin, the latter repeated above the wings. Blue/yellow leading edges to all flying surfaces. Unit badge on fin within a white disc, Division 1 badge aft of cockpit**

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# 7 R.J. CARUANA ARTWORK - EDITOR'S SELECTION

## Sea Hornet & Hornet; Issue 73

Hornet PR.2 Prototype, PX216/R, Photographic Development Unit. PRU Blue overall; No.armament in the nose, cameras installed beneath rear fuselage. Blue/red roundels on fuselage and above wings; code in white, serials in black

Below: De Havilland Hornet F Mk 3, PX302/EB•D, No.41 Squadron RAF, 1949. Medium Sea Grey upper surfaces; PRU Blue undersides. Yellow spinners; standard national post-war markings. Codes and serials are black; note small squadron crest above fin flash

Above: De Havilland Hornet F Mk 3, PX314/EB•C, No.41 Squadron RAF, 1949. Ocean Grey and Dark Green upper surfaces with PRU Blue undersides; Blue/Red national roundels on fuselage sides and above wings. Silver/Red spinners; all lettering in black. Unit badge flanked by a red bar, outlined in black, above fin flash. Top view at far left shows the typical camouflage pattern

De Havilland Hornet F Mk 4, WF975/N, No.45 Squadron RAF, Butterworth (Malaya), May 1945. Scheme as above Aluminium spinner, natural metal areas around engine exhaust stacks. Eed bars with white dumb-bells, superimposed with unit badge, flanking fuselage roundels

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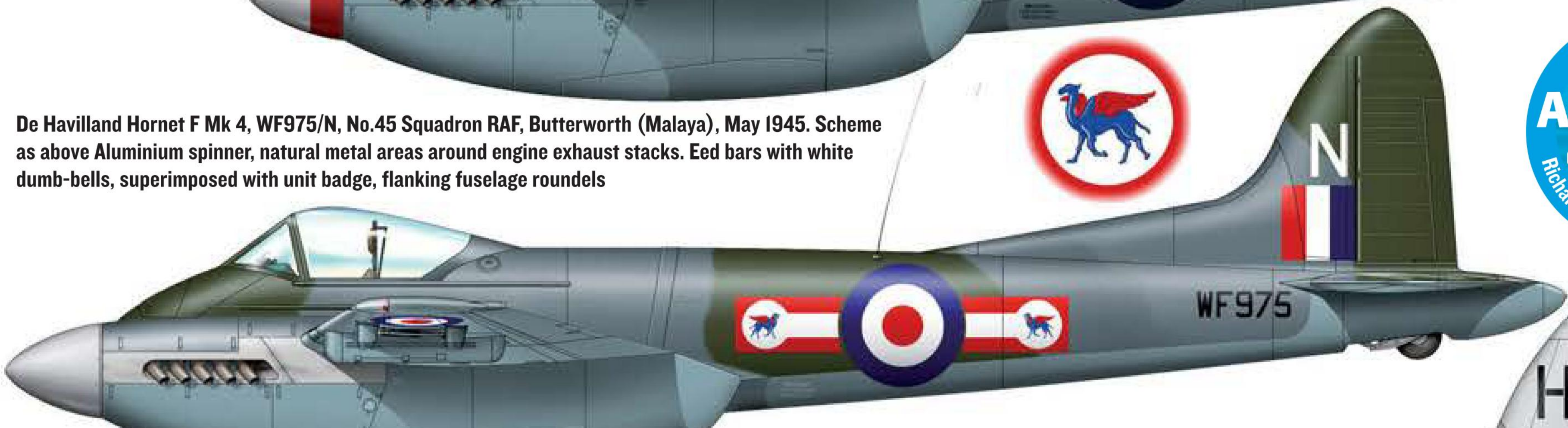



De Havilland Sea Hornet F Mk 20, VR848/HF-532, No.728 Naval Air Squadron FAA, Hal Far (Malta), 1954. Silver overall with black anti-dazzle panels ahead of cockpit and on inner top faces of engine nacelles; yellow spinners and flash on fin, the latter outlined in black

De Havilland Sea Hornet N F Mk 21, VW960/A-483, No.809 Naval Air Squadron FAA, HMS Eagle. Extra Dark Sea Grey upper surfaces and spinners with Sky undersides; all lettering in black. White Ensign (waved) on fin fillet; national markings in bright colours in six positions

De Havilland Sea Hornet NF Mk 21, VX250/Q-485, No.809 Naval Air Squadron FAA, HMS Indomitable, 1952. Extra Dark Sea Grey upper surfaces and spinners with Sky undersides; all lettering in black. Post-war style national markings in bright colours in six positions; unit crest on nose

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

Hawker Hurricane Mk IIb, Z2961/K, fflown by Sgt G.E. Horicks of No.185 Squadron, Ta' Qali, late March 1942. Dark Earth/Dark Green upper surfaces with Sky undersides; Night spinner and serial. Medium Sea Grey codes. Note patched area painted in red dope on top of fin

Hawker Hurricane Mk IIa, Z2827/M, Malta Night Fighter Unit, January 1942. Dark Earth/Mid Stone/Azure Blue finish with white spinner and Light Grey codes

Supermarine Spitfire Mk Vb, BP964/X•I, flown by Sgt A Goldsmith (RAAF), No.261 Squadron, Ta' Qali, April 1942. Dark Earth/Mid Stone upper surfaces overpainted with a dark blue whilst enroute to Malta on USS Wasp (Operation Calendar) with Azure Blue undersides; Night spinner and serial. White codes

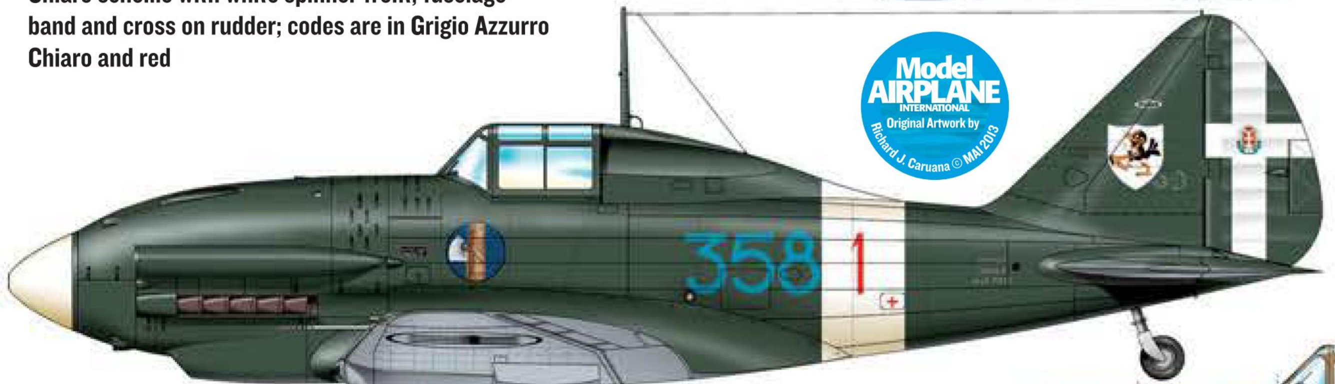
Supermarine Spitfire Mk Vb, BR329/GL•J, flown by Flt Lt Johnny Plagis of No.249 Squadron, showing 11 'swastika' victory markings under the windscreen on 6 June 1943. Dark Earth/Mid Stone upper surfaces with Azure Blue undersides; Night spinner and Yellow codes. Note name 'KAY' in black on a yellow background above victory markings

Supermarine Spitfire Mk Vb, AB264/GN•H, flown by Plt Off Peter Nash, No.249 Squadron, Ta' Qali, May 1942. Dark Earth/Mid Stone upper sufaces with Azure Blue undersides; Night spinner. Codes and serial in white

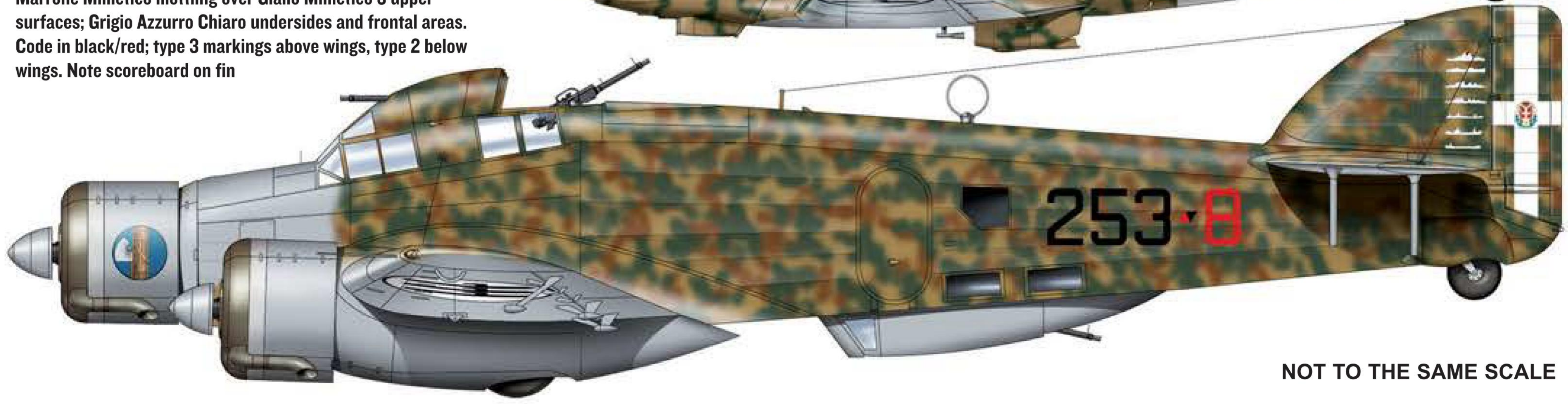
Messerschmitt Bf 109F-4, White 3, flown by Uffz Dr Felix Sauer, 10 (Jabo)/ JG53, Sicily, 1942. RLM74/75/76 finish with white rear fuselage band and wingtips; white '3' on fuselage sides. Black spinner; unit badge on nose. Personal emblem of 'bomb on Malta' on rear fuselage band

Reggiane Re 2001, 358-1, 358^ Sq (2º Gr, 6º St), Caltagirone, 1942. Verde Oliva Scuro/Gricio Azzurro Chiaro scheme with white spinner front, fuselage band and cross on rudder; codes are in Grigio Azzurro Chiaro and red

Macchi C.202 Folgore Serie VII, M.M.9042/151-1, flown by Cap. Furio Niclot of 151^ Squadriglia, 20º Gruppo, 51º Stormo, Gela, May 1942. Nocciola Chiaro 4 upper surfaces with Verde Oliva Scuro 2 'smoke rings'; Grigio Azzurro Chiaro 1 undersides. White spinner front and rear fuselage band; white arrowhead aft of cockpit Codes in black/red, outlined in white; Stormo badge on fuselage band



Savoia Marchetti S.79, 253-8, 253^ Squadriglia, 104º Gruppo Autonomo Aerosiluranti, late June 1942. Verde Mimetico 3/ Marrone Mimetico mottling over Giallo Mimetico 3 upper surfaces; Grigio Azzurro Chiaro undersides and frontal areas. Code in black/red; type 3 markings above wings, type 2 below wings. Note scoreboard on fin

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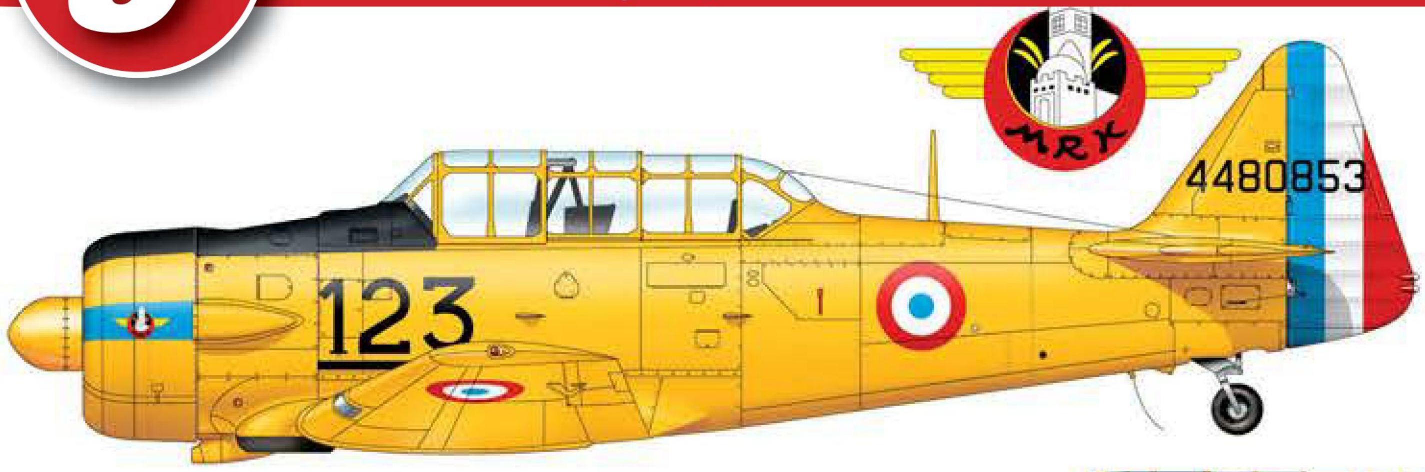
# R.J. CARUANA ARTWORK - EDITOR'S SELECTION

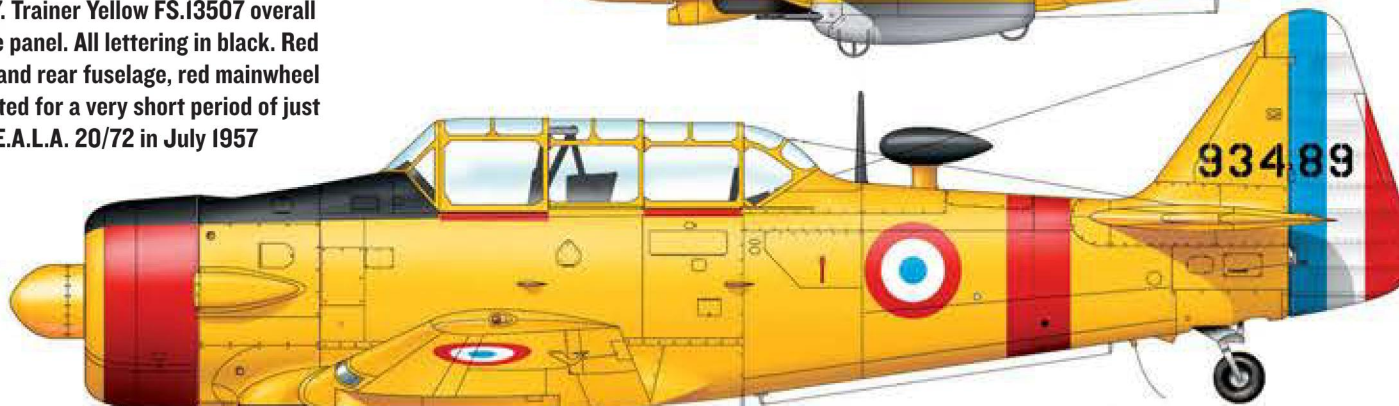
## French T-6s in Algeria; Issue 89




North American T-6G Texan, 49-2982/YD, E.A.L.A. 15/72, Bou Saâda, 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panel and band across cowling. 'Balbuzard' (Buzzard) unit badge superimposed. All lettering in black. Mission tally in blue cannon shells, white rockets and red bombs over a black rectangle. red spinner and wingtips

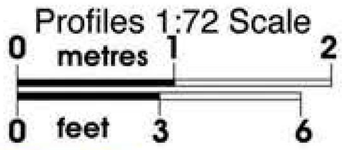
North American T-6D Texan, 44-80853/123, École de Marrakech, late 1967. Trainer Yellow FS.13507 overal. All lettering and anti-dazzle panel in black, with '123' repeated below starboard wing, inboard of roundel. Standard national markings; mid-blue band across engine cowling with unit (Flight School) insignia superimposed. Bar below code number indicated that aircraft was capable of being armed

North American T-6G2 Texan, 49-3489, E.A.L.A. 2/71, Oujda (Morocco), 1957. Trainer Yellow FS.13507 overall with black anti-daz- zle panel. All lettering in black. Red bands around cowling and rear fuselage, red mainwheel centre. This unit operated for a very short period of just over a year, becoming E.A.L.A. 20/72 in July 1957

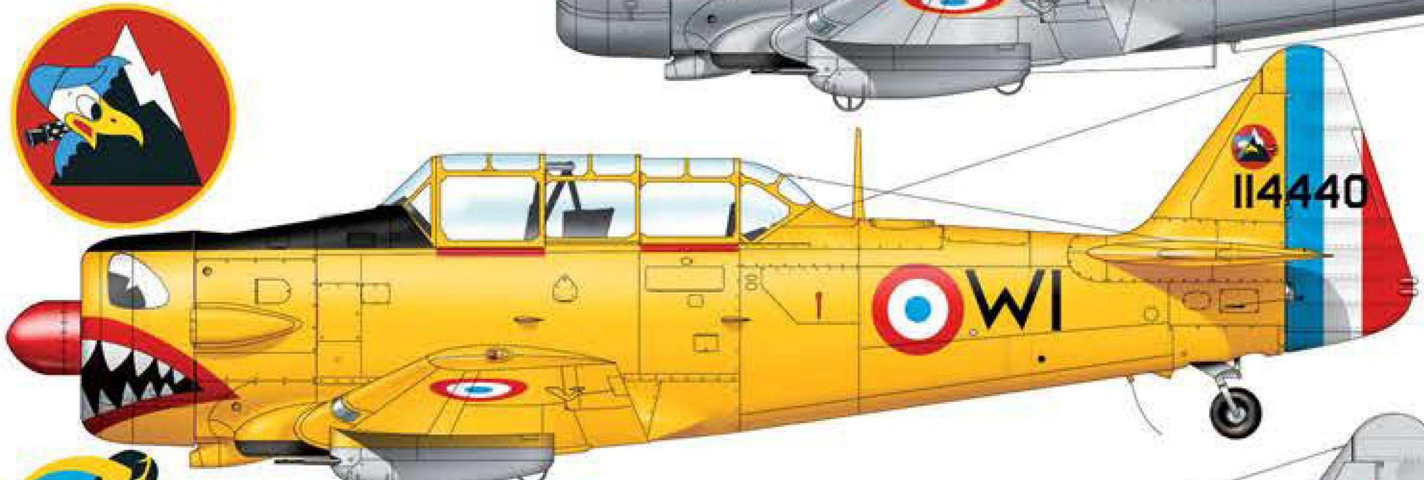



Below Left: North American T-6G Texan, 51-15237/OH, E.A.L.A. 5/72, Colomb-Bèchar late 1957. Trainer Yellow FS.13507 overall with 'dog-face' marking in black, red and white. All lettering in black. 'Daube' (Desert Lizard) unit badge on fin

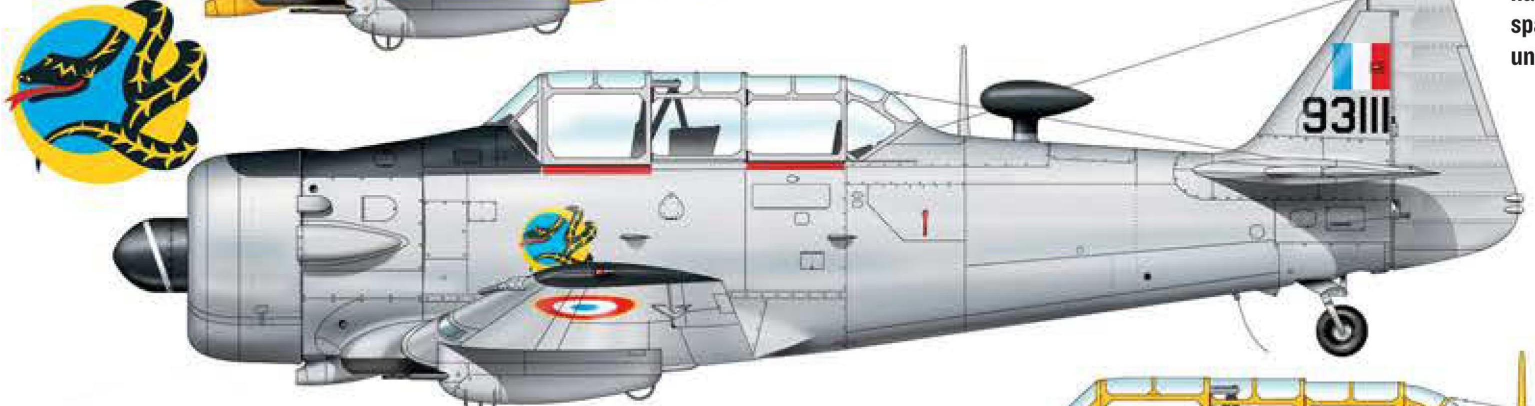
North American T-6G2 Texan, 51-14375, E.A.L.A. 6/72, Khenchela, April 1958. Natural metal overall with black anti-dazzle panel. All lettering in black. Yellow spanwise bands above the wings. Red front of spinner, red wingtips and outer wing joint fairing. 'Ramel' (Eagle) unit badge over a red shield below cockpit; badge of the 13 éme DBLE (Legionaire Regiment) on the fin




North American T-6G Texan, 51-14440/WI, E.A.L.A. 13/72, Paul Cazelles, 1957. Trainer Yellow FS.13507 overall with 'Sharkmouth' marking in black, red and white. All lettering in black. Red spin- ner. 'Cigogne d'Uturu' (Stork of Uturu) unit badge on fin




North American T-6G2 Texan, 49- 3111, E.A.L.A. 16/72, Biskra, September 1959. Aluminium overall with black anti-dazzle panel, wingtips and spinner, the latter having a white spiral. All lettering in black. Yellow spanwise panels above the wings. 'Serpent/Cresent' unit badge on fuselage sides

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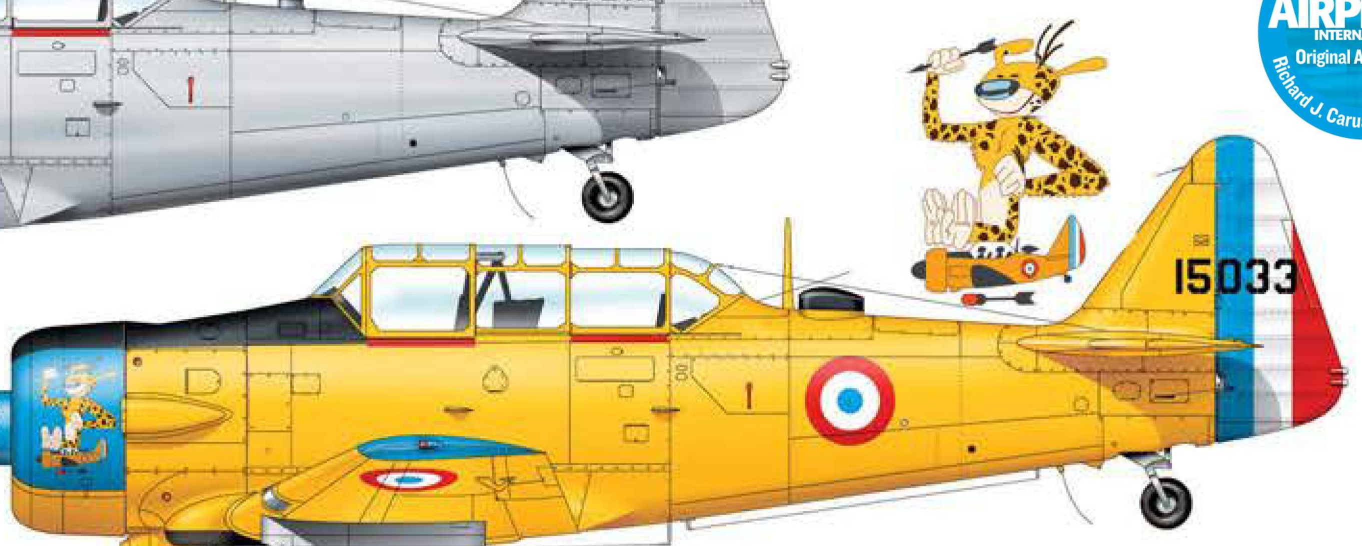



North American T-6G2 Texan, 51-5033, E.A.L.A. 11/72, La Réghaîa, 1957. Trainer Yellow FS.13507 overall with black anti-dazzle panel. All letter- ing in black. Mid-blue spinner, wingtips and part of the engine cowling on which is painted the early version of the unit badge inspired by the cartoon character 'Marsupilami' riding a T-6. This marking was painted on at least three aircraft by Pilot Sgt P. Fournier but was not officially approved

PROFILES: 1:72SCALE

# 10

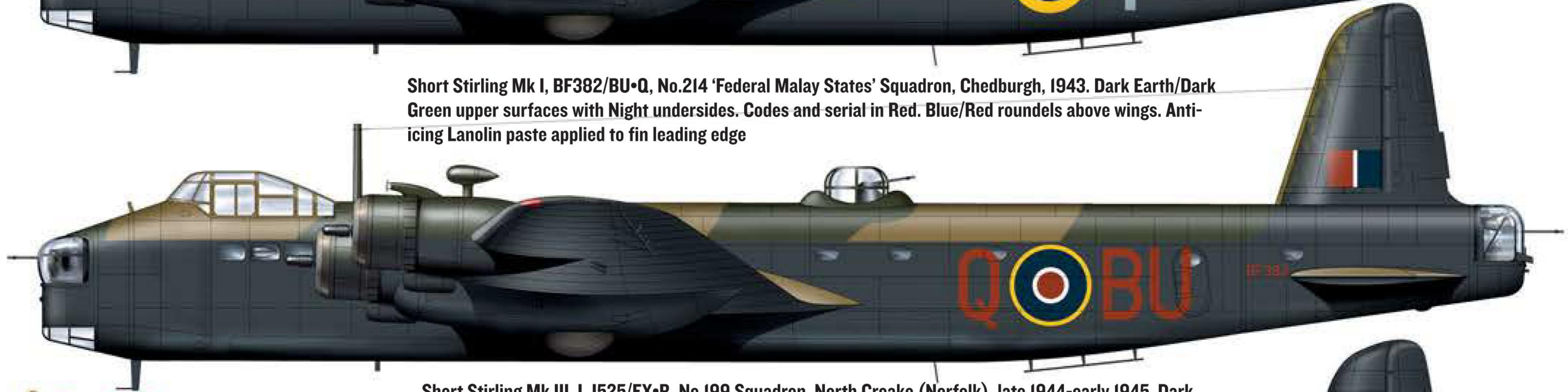
## Short Stirling; Issue 94

Short Stirling Mk I, N3638, recorded at Syndeham prior to being delivered to No.7 Squadron. Dark Earth/Dark green upper surfaces going down the fuselage sides, with Sky undersides. Night serial. Blue/Red roundels above wings. Note black spinners fitted

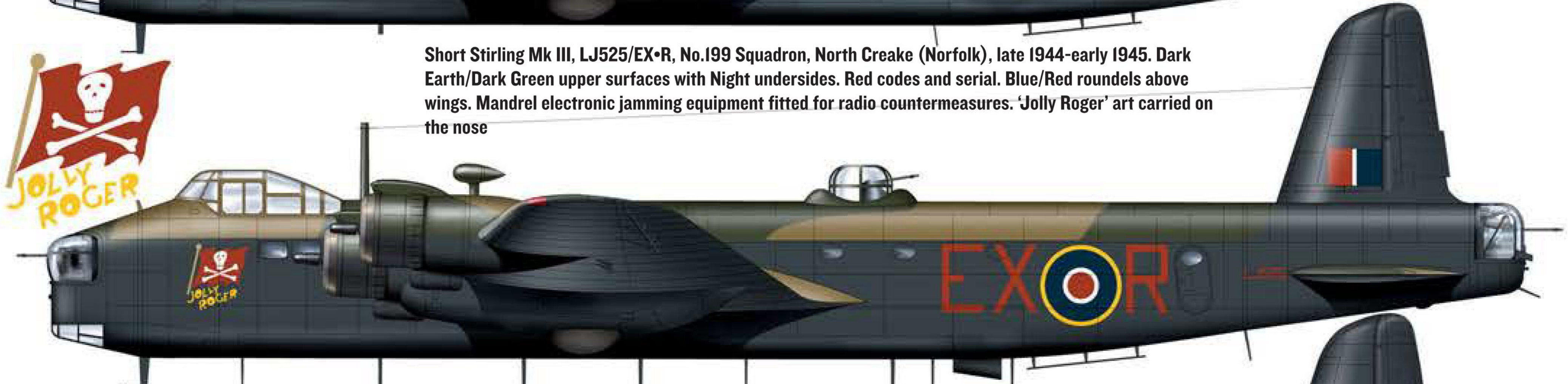
Short Stirling Mk I, N6103/OJ-E, No.149 'East India Squadron, Mildenhall, 1941. Dark Earth/Dark Green upper surfaces with Night undesides. Medium Sea Grey codes, Red serial. 'East India I' on nose

Short Stirling Mk I (Srs III), N6073, MG•Y, No.7 Squadron, March 1942. Dark Earth/Dark Green upper surfaces with Night undersides. Codes in Medium Sea Grey, serial in Red

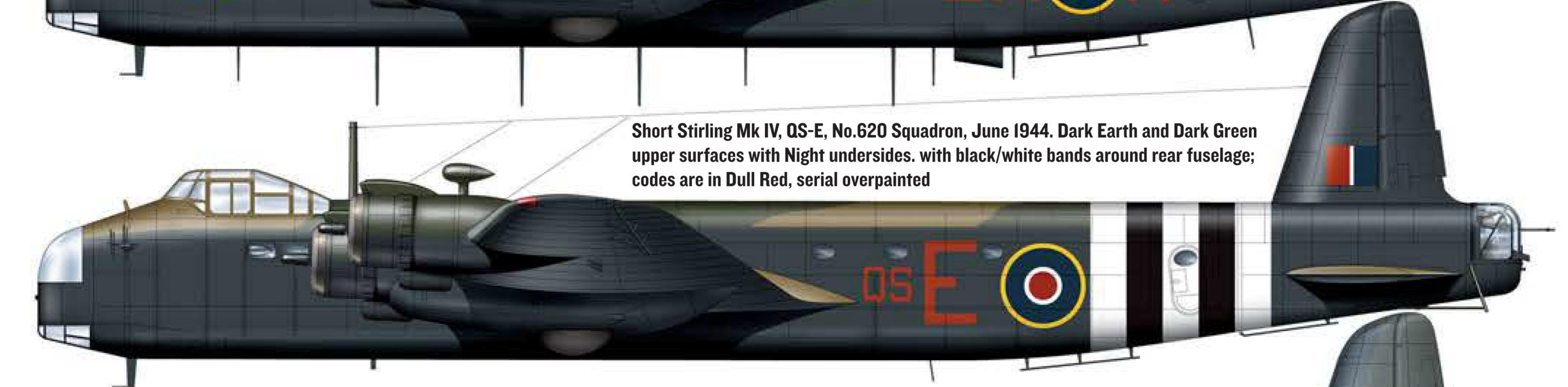
Short Stirling Mk I, BF382/BU•Q, No.214 'Federal Malay States' Squadron, Chedburgh, 1943. Dark Earth/Dark Green upper surfaces with Night undersides. Codes and serial in Red. Blue/Red roundels above wings. Anti-icing Lanolin paste applied to fin leading edge




Short Stirling Mk III, LJ525/EX•R, No.199 Squadron, North Creake (Norfolk), late 1944-early 1945. Dark Earth/Dark Green upper surfaces with Night undersides. Red codes and serial. Blue/Red roundels above wings. Mandrel electronic jamming equipment fitted for radio countermeasures. 'Jolly Roger' art carried on the nose

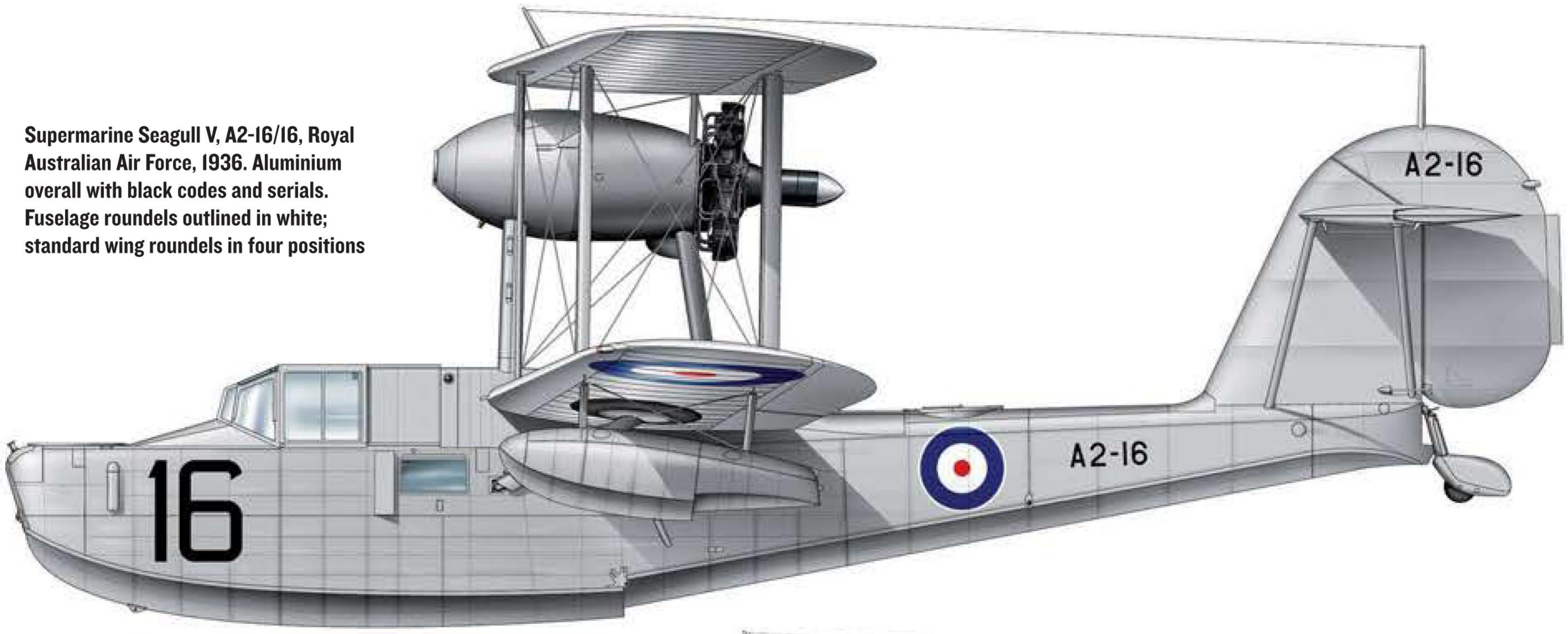



Short Stirling Mk IV, QS-E, No.620 Squadron, June 1944. Dark Earth and Dark Green upper surfaces with Night undersides. with black/white bands around rear fuselage; codes are in Dull Red, serial overpainted

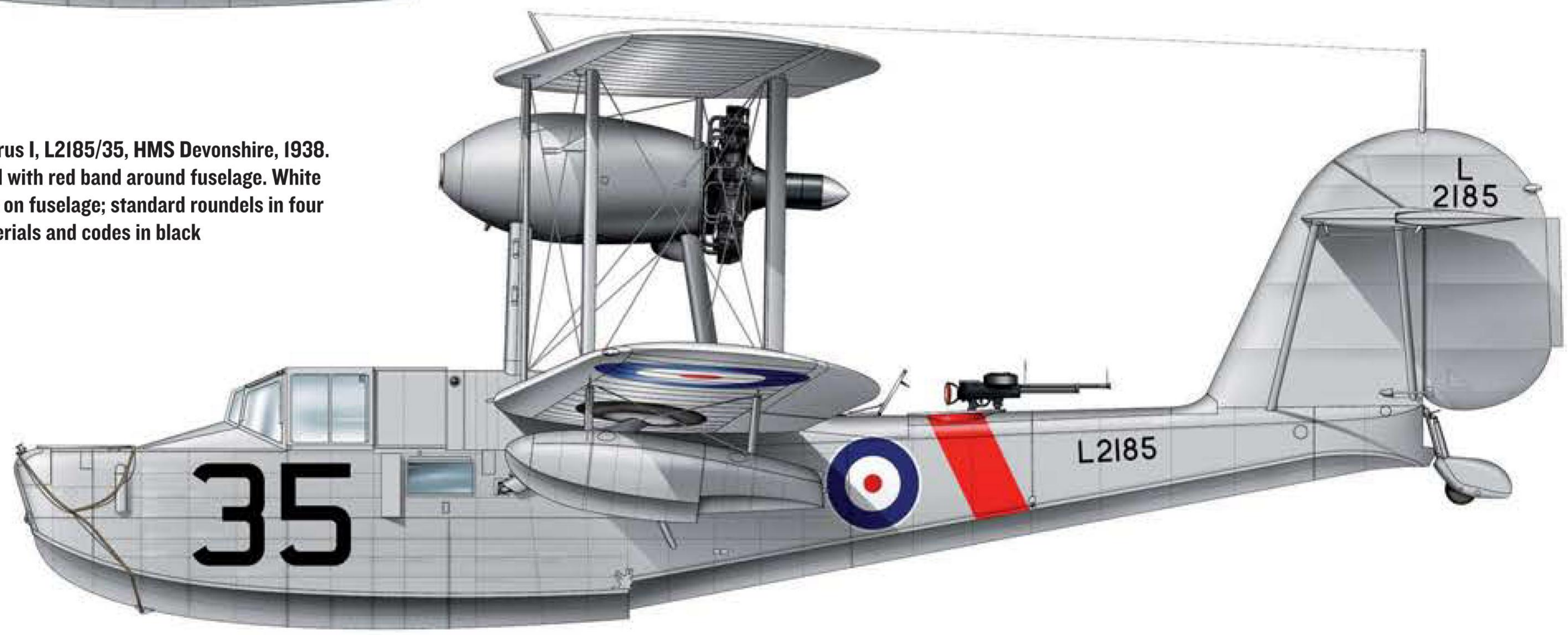



Short Stirling Mk V, PK124/JQ-Q, No.51 Squadron, Stradishall, 1945. Extra Sark Sea Grey/Dark Slate Grey upper surfaces with Azure Blue undersides. Codes and serial in black. Blue/White/Red Roundels above wings

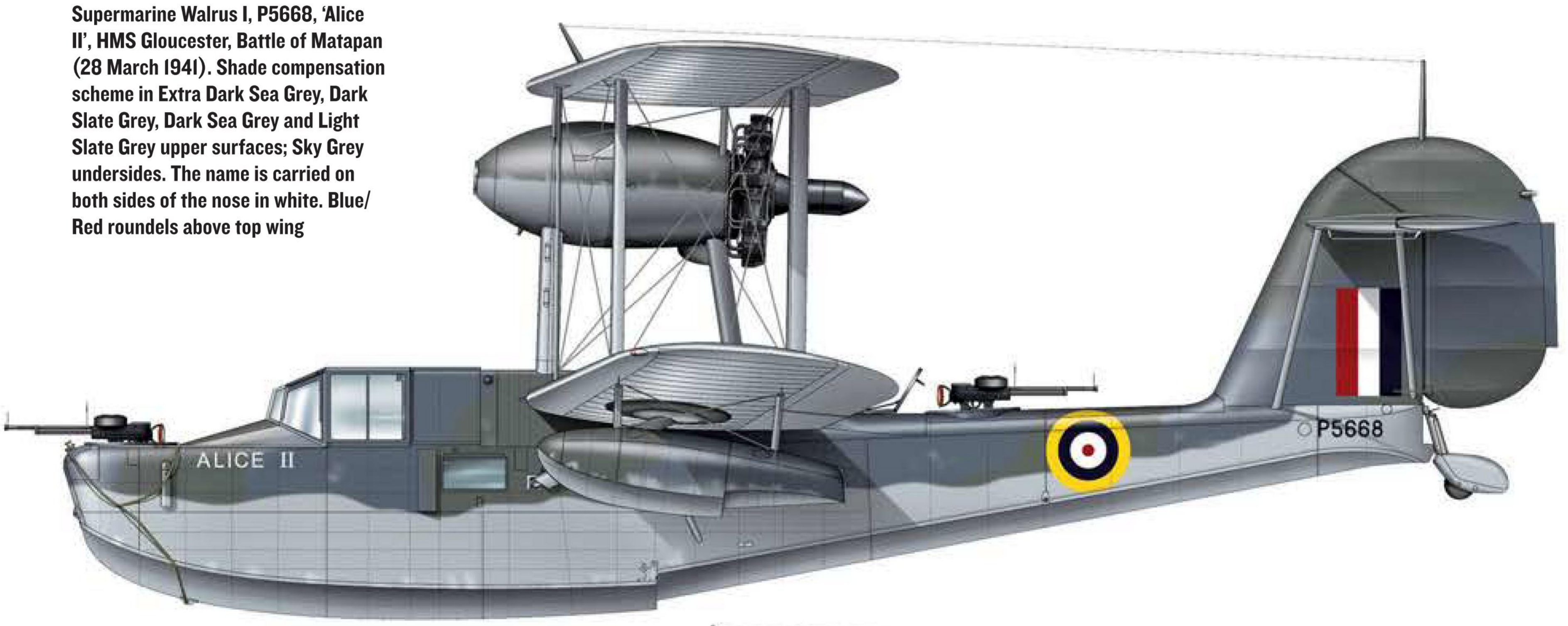
*Subjects are listed in the order they appeared, not in any ranking position*



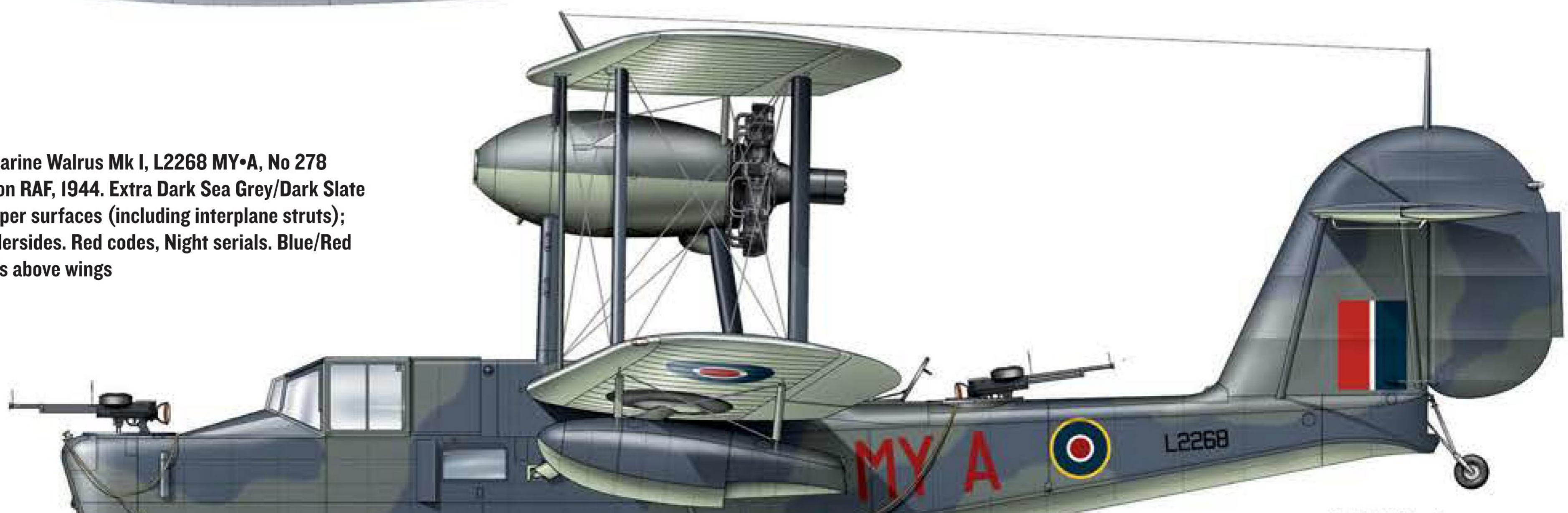

Supermarine Seagull V, A2-16/16, Royal Australian Air Force, 1936. Aluminium overall with black codes and serials. Fuselage roundels outlined in white; standard wing roundels in four positions



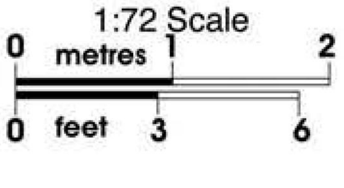

Supermarine Walrus I, L2185/35, HMS Devonshire, 1938. Aluminium overall with red band around fuselage. White outlined roundels on fuselage; standard roundels in four wing positions. Serials and codes in black




Supermarine Walrus I, P5668, 'Alice II', HMS Gloucester, Battle of Matapan (28 March 1941). Shade compensation scheme in Extra Dark Sea Grey, Dark Slate Grey, Dark Sea Grey and Light Slate Grey upper surfaces; Sky Grey undersides. The name is carried on both sides of the nose in white. Blue/Red roundels above top wing




Supermarine Walrus Mk I, L2268 MY•A, No 278 Squadron RAF, 1944. Extra Dark Sea Grey/Dark Slate Grey upper surfaces (including interplane struts); Sky undersides. Red codes, Night serials. Blue/Red roundels above wings



Supermarine Walrus Mk.I, N.20, Irish Air Corps, late 1941. Dark Earth and Dark Green on all upper surfaces with Aluminium undersides. Orange/White/Green bands below bottom wings (green inboard). Serial in black. Green/Orange roundels on fuselage sides (over a white square) and above top wings only

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SB2U-1s of Bombing Squadron Three (VB-3) ranged on the deck of USSSaratoga (CV-3)
(R.J. Caruana Archives)

# FAME BUT NO FORTUNE
## THE VOUGHT SB2U VINDICATOR/CHESAPEAKE

During 1934, the United States Navy Bureau of Aeronautics issued a call for a scout and dive- bombing aircraft with the aim of incorporating a number of advanced features over those of existing service aircraft. Respondents were short-listed to two: the Vought XSB2U-1 and the Brewster XSBA-1. While the former was clearly head and shoulders above the latter, both were awarded prototype contracts, the first going to Rex B. Beisel's team at Chance Vought on 11 October 1934, the second to Brewster's four days later.

Vought's design was of a low-wing cantilever monoplane with a long fuselage topped by a greenhouse that completely enclosed the crew of two. Internally it was of all-metal construction, though alloy skinning was limited to the forward fuselage, tail cone, fin and fixed horizontal tail

First unit to be equipped with the Vindicator was VB-3 "High Hats", of which an SB2U-1 (serial 0739) is seen here photographed before the unit was transferred onto the USS Ranger from the Sarratoga
(RJ Caruana Archives)

surfaces, and leading edge sections of the wings. All the rest, including moveable control surfaces were fabric-covered with the exception of the trailing edge flaps under the wing and fuselage centre-section. The main undercarriage retracted hydraulically rearward, rotating through 90°, the wheels disappearing into the wings while the legs formed fairings leading to the wing's leading edge. The tailwheel, though externally fixed, could swivel freely. Outer wing panels folded up to facilitate storage on US carriers.

Power was provided by a 14-cylinder, twin-row air-cooled Pratt & Whitney R-1535-78 Twin Wasp which offered 700hp at 2700m. The long cockpit housed the pilot in a relatively comfortable cockpit, and an air-gunner facing the rear armed with a .3in (7.62mm) machine gun, the two being separated by a 130 US gall. (4921 lt) fuel tank. Another 7.62mm gun was fitted to the starboard wing, just outside of the mainwheel fairing, thus firing outside the propeller arc.

XSB2U prototype Bu.No 9725 took to the air for the first time on 4 January 1935. It was shortly followed by the XSB3U biplane which the US Navy had contracted as a guarantee should the monoplane formula fail in the dive-bombing role. By July, when most tests had been conducted to the satisfaction of the US Navy, the XZB3U disappeared into oblivion, since Vought's design proved to be greatly superior in all performance parameters. Tragedy struck, however, in August when the prototype was lost, killing Lt Cdr SH Arthur and Vought's observer, R Witbeck. Fear that this would jeopardise the aircraft's future were dispelled when in October 1936 an order for 54 production SB2U- 1s was issued.

The first production machine was delivered to Naval Air Station Anacostia on 16 July of the following year. Hardly recognisable from the prototype, it was some 165kg heavier. Installation of the R-1535-96 Twin Wasp, with its 760hp at 2700m, proved more than adequate to compensate for such an increase and provided an extra margin of performance as well. Originally it had been intended to incorporate propeller in-flight pitch-adjustment as a means to brake the aircraft's dive. Although it worked on paper, in practice it meant that having lost all throttle control once pitch had been changed and the aircraft started its descent, the pilot was left with little control over its trajectory. This led to a long series of tests with the first production aircraft fitted with 'fences' above and below the wing. These created unacceptable buffeting and the Navy had to concede to the expedient of a shallower dive and the extension of the undercarriage as an air-brake.

Another problem remained unsolved notwithstanding extensive trials. This regarded the cooling gills of the engine cowling which, when open, blocked a great portion of forward vision. This proved to be worrisome particularly during landing leaving few options such as to land with the gills half open, risking engine overheating, or 'crabbing', that is flying at an angled attitude to be able to see the runway, or carrier deck.

Bombing Squadron (VB) 3 aboard USS "Saratoga" was the first US Navy unit to take the Vindicator on charge in December 1937 although it was March of the following year before the unit was fully equipped with the necessary 18 aircraft. Entry into service was hardly smooth considering that pilots were to convert from nimble biplanes they had flown for years to such large and powerful aircraft. Ground-crews, too, found the passage onto monoplanes in naval service difficult. As human barriers were gradually overcome the Vindicator provided the US Navy with a quantum leap forward in preparation for the more-powerful generations of aircraft that were soon to follow.

Meanwhile, VB-2 from USS “Lexington” fully converted onto the SB2U-1 in April 1938, adding to the colourful markings which the Vindicator was to don in US Navy fashion on cowling, fuselage and tail surfaces. While the 54th production aircraft was retained for conversion to SB2U-3 configuration, SB2U-2s began to appear in August 1938, the first unit thus equipped being VB-4 on board USS “Ranger” the following December. Ordered in January of 1938, the SB2U-2 was supposed to differ in internal equipment only, though in practice it was to be discovered later than most parts, including the outer mainplanes, were not interchangeable.

In July 1939, VB-3 and VB-4 changed equipment and carrier, thus leaving VB-2 and VB-4 to fly the SB2U-1s to which small numbers of SB2U-2s were delivered to make up for attrition. Flying two different sub-types created maintenance problems for these units. Another SB2U-2 unit was formed in April 1940, this being VS-72 on board USS “Wasp”.

A contract was placed in September 1939 for 57 SB2U-3s for the US Marine Corps (USMC) and differed considerably from previous models. Intended as a long-range ‘scout- bomber’, internal fuel capacity was considerably increased with consequent strengthening of the airframe to take the extra weight, horizontal tail surfaces’ span was also increased. Machine gun calibre for both the fixed forward gun and the hand-held gun in the rear fuselage was increased from 0.3in to 0.5in (in actual fact, provision was made for four fixed forward firing 0.5in guns, but only one was ever fitted). Power remained practically the same, at 825hp, though the engine was now the Pratt & Whitney R-1525-02 Twin Wasp. This meant a slight drop in performance where speed and climb was concerned though the main goal of increased range was achieved, the original 1020km having risen to 1800.

Deliveries of SB2U-3s began in February 1941, VMS-2 being formed on the new machine at NAS San Diego in March, followed by VMS-1 in May at MCAS Quantico; with a change in designation systems, the former unit became VMSB-231, the latter VMSB-131 the following July. Marine pilots were critical of the sluggish performance of the new machine, so much heavier than the previous Vindicator, not to mention problems with fuel leakages into the cockpit which caused great concern. The infamous attack on Pearl Harbour would have wiped out VMSB-231 had they not embarked 18 of their SB2U-3s on “Lexington” a few days earlier. What aircraft it had left on the ground were found completely destroyed on the unit’s return to Pearl Harbour. As the base was by that time considered to be unsafe VMSB-231 took its Vindicators on the longest non-stop massed flight of its time, from Hawaii to Midway, a distance of 1829km – the Vindicator’s most extreme range.

In March 1942, VMSB-231 became VSMB-241 as part of Marine Air Group 22 though it had to be replenished in May with 19 SBD-2 Dauntless to supplement its dwindling force of Vindicators. No sooner had these arrived that

Vindicator belnging to the Commander Air Group from USS Ranger showing off its transverse fuselage stripe. Note that it does not carry the usual wing chevrons in the squadron colour (RJ Caruana Archives)

a Japanese task force under the command of Admiral Nagumo had been sighted heading for Midway on 4 June. Aircraft of the unit immediately took-off and split into two groups: one with the 16 SBD-2s Dauntless and the other with the remaining eleven Vindicator on strength. The new SBD-2s were the first to go into action only to be mauled by Zeros from the Japanese carriers which shot down eight of them and damaged nearly all the survivors which however managed to get back to base. Three Vindicators were shot down, though not until Major Ben Norris, leader of the group, managed to score a near miss on the “Haruna” which inflicted some minor damage to the battleship. Another mission on that same day yielded no contact with the enemy, though Major Norris was seen to go down with his Vindicator for no apparent reason.

The final Vindicator mission of the Battle of Midway was performed the day after when the unit, now led by Capt RE Fleming (whose aircraft the previous day had collected no less than 179 bullet holes!), were detailed to attack the heavy cruiser “Mikuma” while the Dauntless section faced “Mogami”. The SB2Us encountered heavy anti-aircraft fire during the run-in, Fleming pressed home a suicidal attack, crashing into the aft turret of the “Mikuma” after his engine had caught fire. It took another day of attacks by other elements of the US Navy to send both ships to their watery grave. Although putting up a valiant effort, it had become evident that the Vindicator’s days were over. Even when relegated to training duties, “Sugar Baker Two Uncle” only survived up the middle of 1943 when all survivors became ground instructional airframes.

Final preparations for war: Vindicators on board USS Saratoga photographed just before the attack on Pearl Harbour, now donning the blue-grey scheme instead of the all-silver finish. The tail of the aircraft on the right (41-E-5) is an F4F-3 Wildcat, wearing the same finish (RJ Caruana Archives)

Exports The SB2U fared no better in foreign lands. France initially ordered 40 examples, designated V-156- F (based on the SB2U-2), powered by the R-1535-SB4-G Twin Wasp. Internally modifications included the installation of two forward firing 7.5mm Darne guns and an OPL reflector sight. The wing fence-type air-brakes, rejected by the USN, were accepted by the French, whose first aircraft appeared in June 1939 with the final example being consigned in November. The first unit, Escadrille AB1, was formed in October while a second, AB3, was formed in December.

The Darne (pardon the connotation!) guns were found to be totally useless, jamming after firing a few rounds, while the French radio equipment was not up to scratch either though deck landing trials proceeded uneventfully. When the ‘Phoney War’ period was over, AB3’s aircraft were completely destroyed at Boulogne-Alprecht on May 10, leaving AB1 to take its place and responsibilities. The Vindicators were used for attacks against artillery columns, but more than once operations had to be aborted due to gun malfunctions. A black day for AB1 was on May 20 when six of its aircraft were shot down by Bf.109Es, bringing the French force down to five examples which however did provide some air cover during the retreat at Dunkirk. Meanwhile AB3 was reformed on V-156-Fs taken out of storage while the French Air Ministry ordered 50 new examples which were scheduled for early 1941.

With the fall of France this order was taken over by the British government under the designation V-156-B1 Chesapeake. These were closer to SB2U-3 standard, with increased fuel tankage, four fixed forward firing guns and armour plating under the pilot’s seat. Additional weight without adequate increase in power proved fatal for the Chesapeake not to mention the fact that the British government had little idea of what to do with them. Fourteen examples were given to No 811 Naval Air Squadron, Fleet Air Arm (FAA) which only used them briefly as they were found inadequate as a fighting machine. All Chesapeakes were eventually passed on to training units where little use was found for them even there.

Before the war, the Vindicator was one of the stars in the spectacular Hollywood colour production of ‘Dive Bomber’. The SB2U managed to provide the US Navy with a much needed ‘modern’ aircraft from which to its pilots could progress onto more advanced types within a few years’ time. In its true form, as the SB2U-1 and -2 it was well-loved by its pilots. Boone T. Guyton, with 400 hours on the Vindicator, recalls: “Even as the initial SB2U-1 airplane arrived in the fleet we felt a drive for more power and speed... Still as pilots of the old BG-1 type bomber, we were in some kind of ecstasy, for the SB2U was a great flying advance in all respects.”

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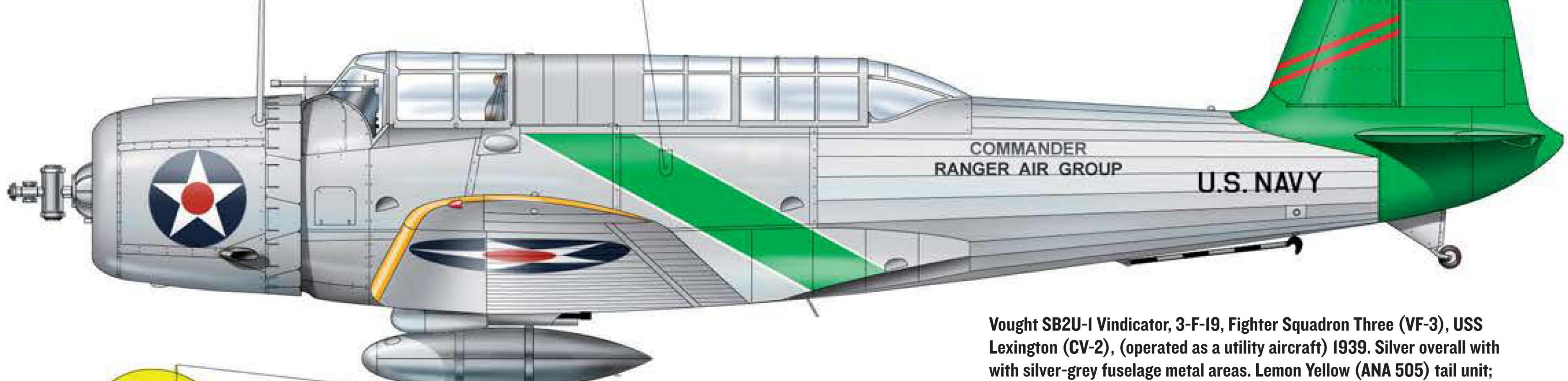
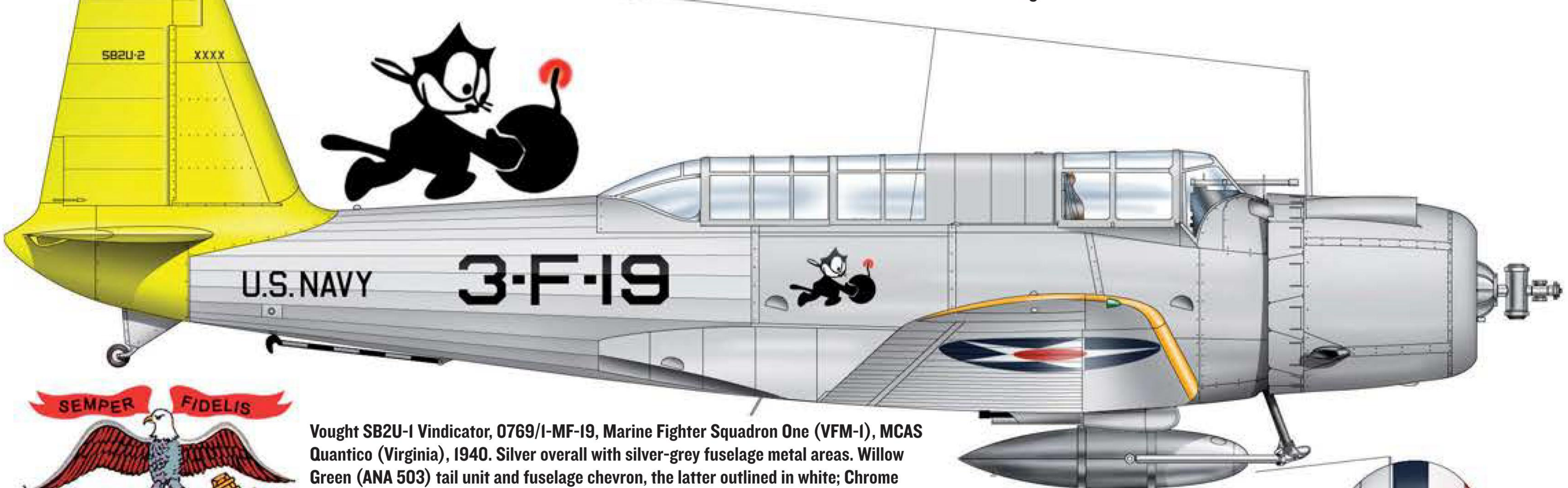
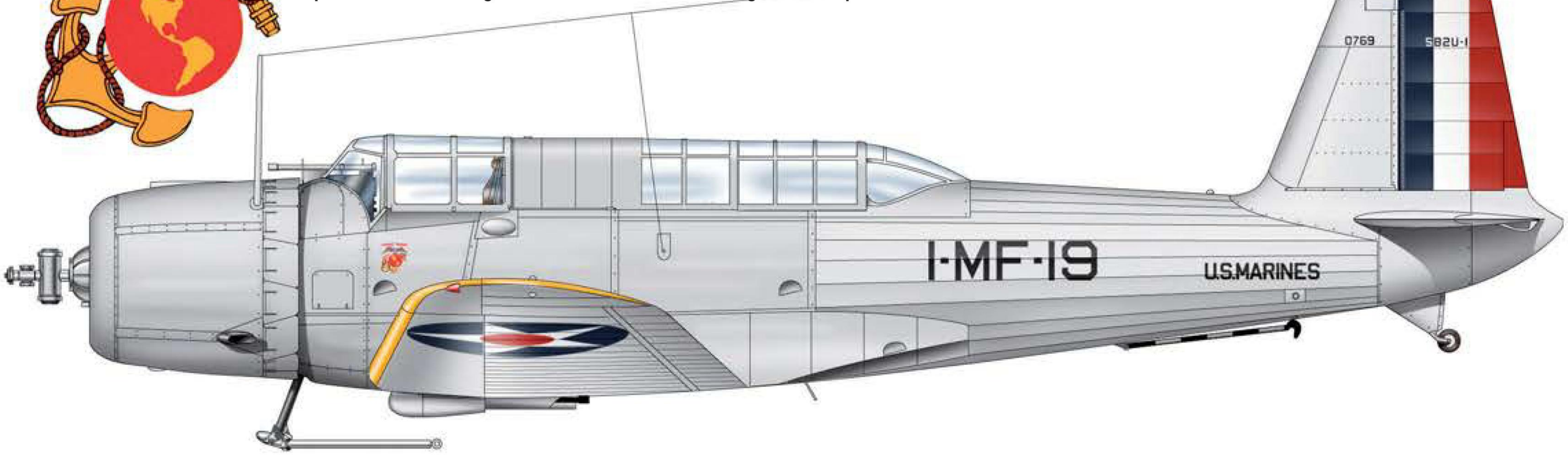
Vought S2BU-1 Vindicator, 0773, Commander Air Group, USS Ranger. Silver overall with silver-grey fuselage metal areas. Willow Green (ANA 503) tail unit and fuselage chevron, the latter outlined in white; Chrome Yellow upper wing surfaces. National markings on engine cowling and four wing positions; note that no wing chevron was carried. Black lettering




Vought SB2U-1 Vindicator, 3-F-19, Fighter Squadron Three (VF-3), USS Lexington (CV-2), (operated as a utility aircraft) 1939. Silver overall with with silver-grey fuselage metal areas. Lemon Yellow (ANA 505) tail unit; Chrome Yellow upper wing surfaces. Black lettering. Unit badge on mid fuselage sides



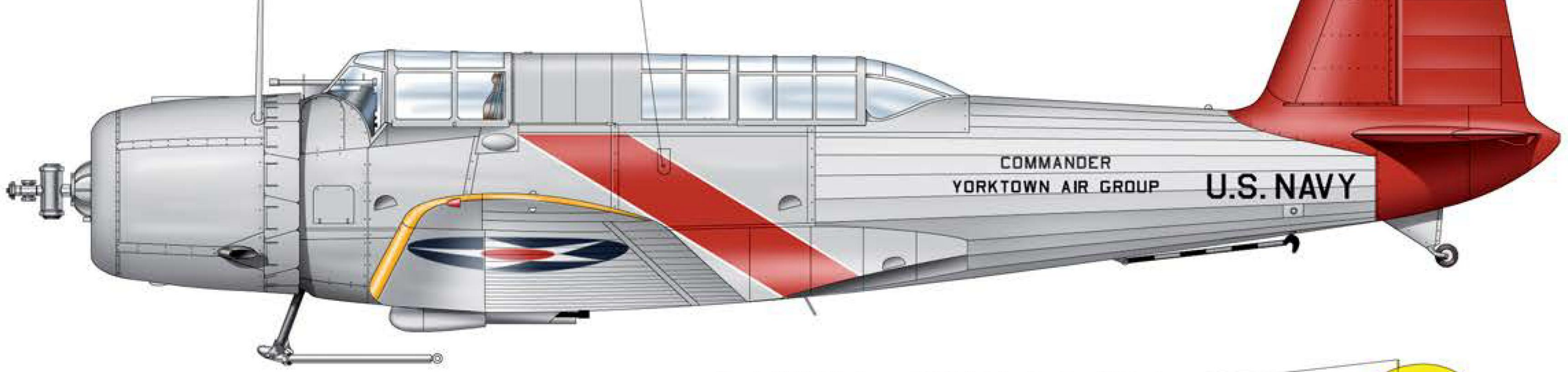
Vought SB2U-1 Vindicator, 0769/1-MF-19, Marine Fighter Squadron One (VFM-1), MCAS Quantico (Virginia), 1940. Silver overall with silver-grey fuselage metal areas. Willow Green (ANA 503) tail unit and fuselage chevron, the latter outlined in white; Chrome Yellow upper wing surfaces. All lettering in black. National markings on four wing positions. Rudder in Insignia Blue/White/Red. US Marines badge below cockpit




Vought S2BU-1 Vindicator, 0739/3-B-13, Bombing Three, USS Saratoga, 1938. Silver overall with with silver-grey fuselage metal areas. Insignia White (ANA 511) tail unit; Chrome Yellow upper wing surfaces. Willow Green (ANA 503) cowling and fuselage bands, and wing chevrons; black lettering

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

**Vought SB2U-2 Vindicator, BuNo 1354, flown by the Commander Air Group, USS Yorktown (CV-5). Silver overall with silver-grey fuselage metal areas. Willow Green (ANA 503) tail unit and fuselage chevron, the latter outlined in white; Chrome Yellow upper wing surfaces. Insignia Red fuselage and wing chevrons (the former outlined in white) and tail unit. Lettering in black. National markings in four wing positions**




**Vought SB2U-2 Vindicator, 0747/2-B-2, Bombing Two, USS Lexington, 1939. Silver overall with with silver-grey fuselage metal areas. Lemon Yellow (ANA 505) tail unit; Chrome Yellow upper wing surfaces. Insignia Red (ANA 509) front upper half of cowling and wing chevron; national markings in four wing positions. All lettering and numbers in black**

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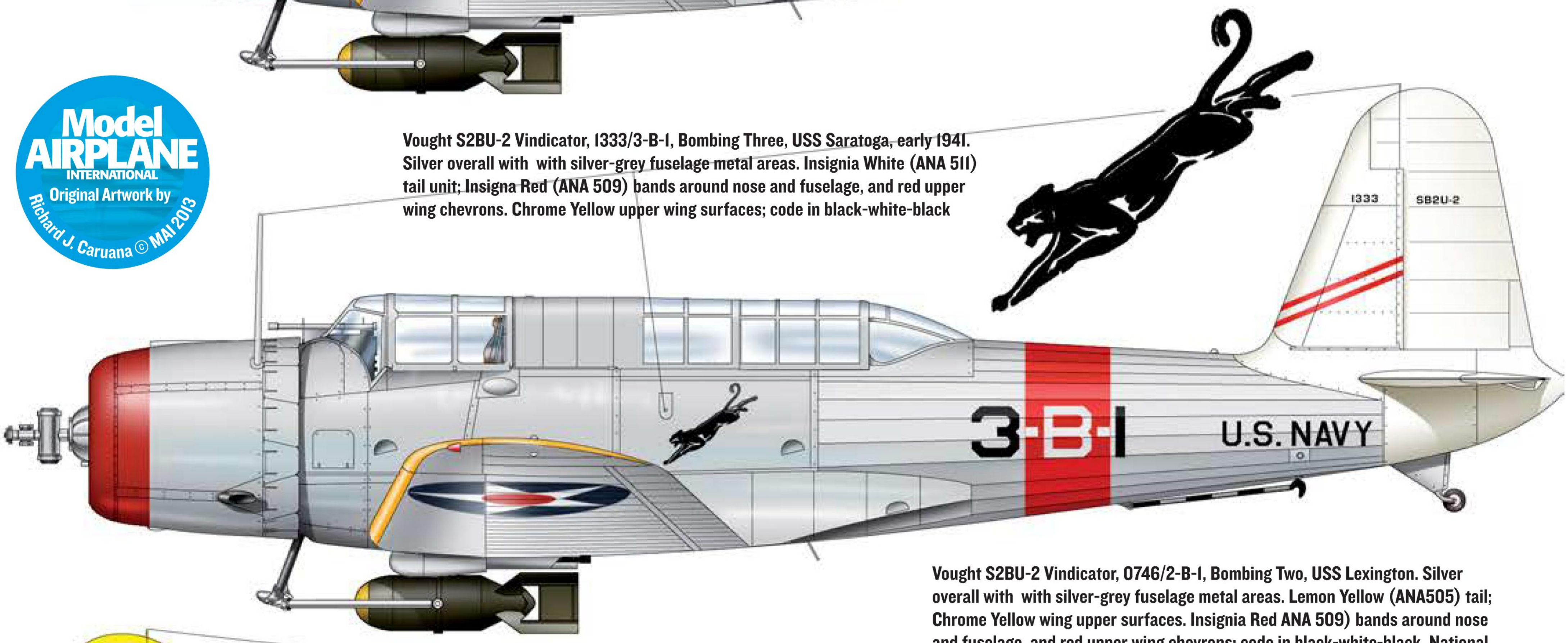
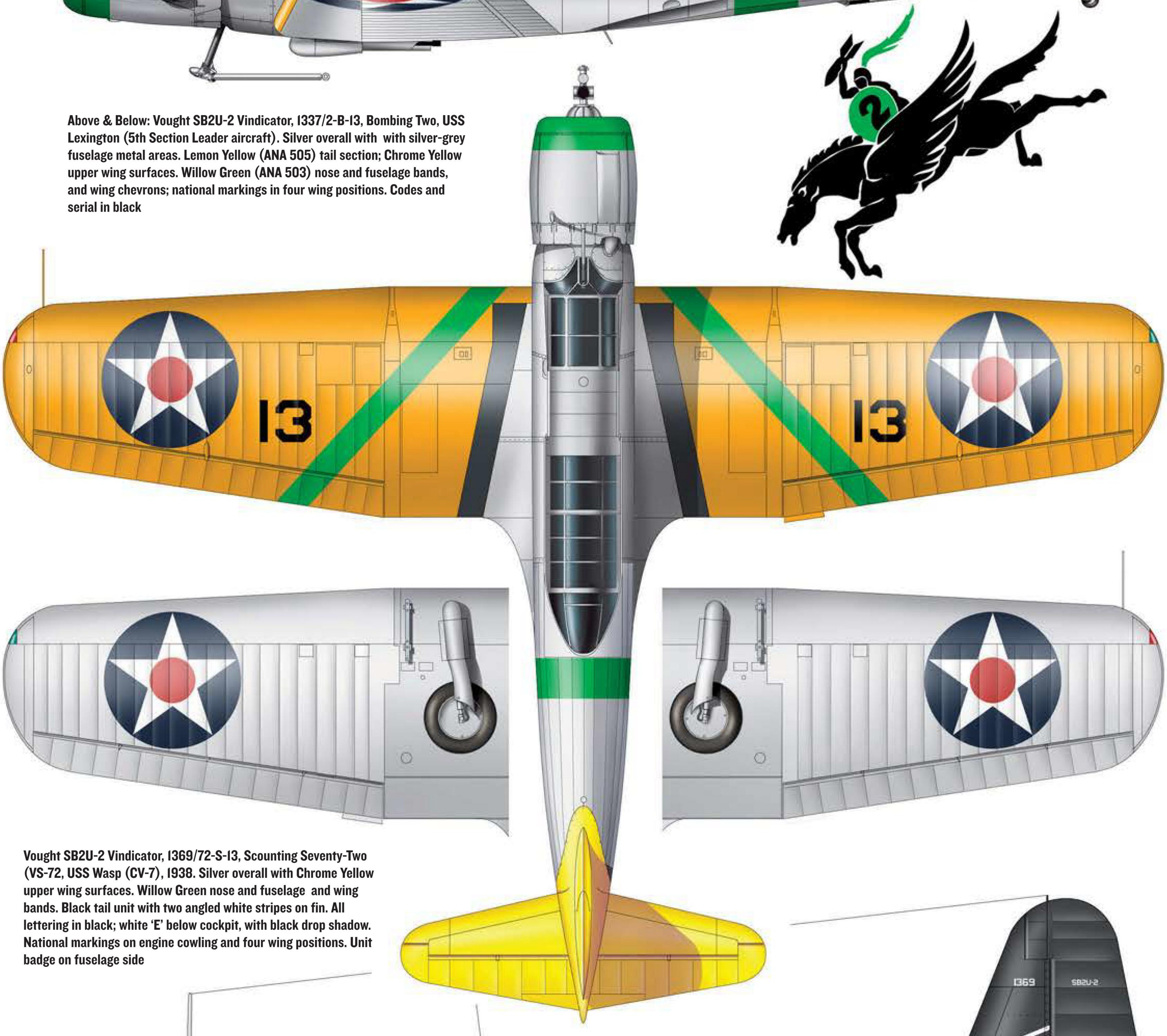
**Vought S2BU-2 Vindicator, 1333/3-B-1, Bombing Three, USS Saratoga, early 1941. Silver overall with with silver-grey fuselage metal areas. Insignia White (ANA 511) tail unit; Insigna Red (ANA 509) bands around nose and fuselage, and red upper wing chevrons. Chrome Yellow upper wing surfaces; code in black-white-black**




**Vought S2BU-2 Vindicator, 0746/2-B-1, Bombing Two, USS Lexington. Silver overall with with silver-grey fuselage metal areas. Lemon Yellow (ANA505) tail; Chrome Yellow wing upper surfaces. Insignia Red ANA 509) bands around nose and fuselage, and red upper wing chevrons; code in black-white-black. National markings in four wing positions**

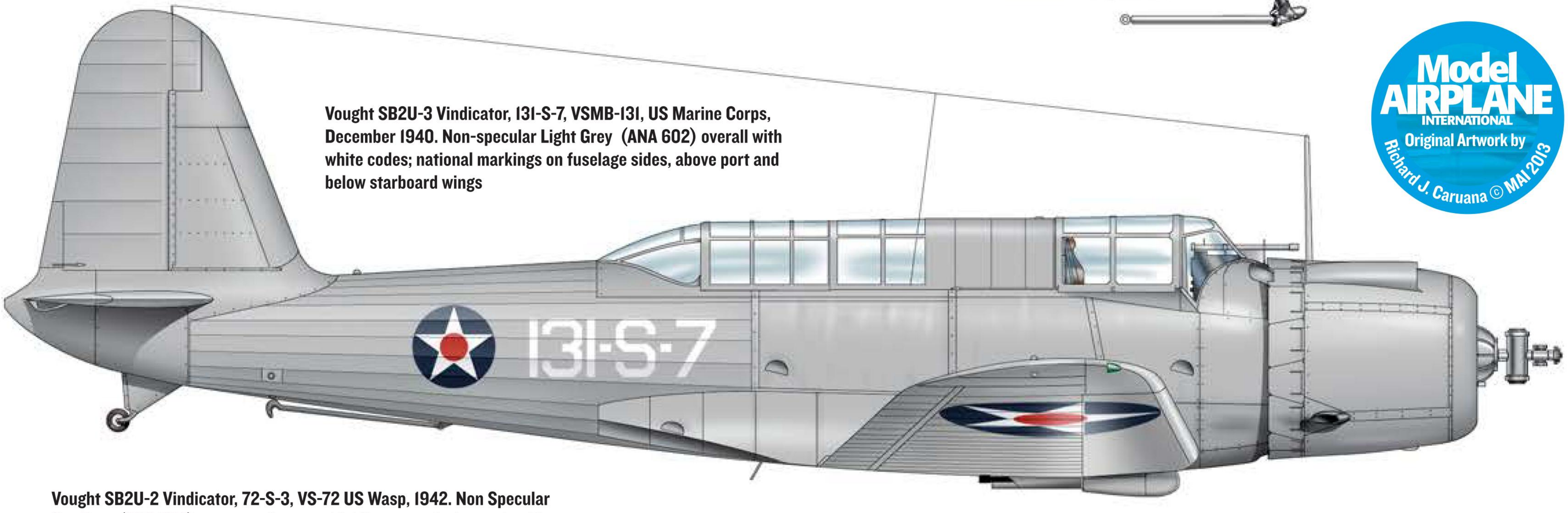
Above & Below: Vought SB2U-2 Vindicator, 1337/2-B-13, Bombing Two, USS Lexington (5th Section Leader aircraft). Silver overall with with silver-grey fuselage metal areas. Lemon Yellow (ANA 505) tail section; Chrome Yellow upper wing surfaces. Willow Green (ANA 503) nose and fuselage bands, and wing chevrons; national markings in four wing positions. Codes and serial in black




Vought SB2U-2 Vindicator, 1369/72-S-13, Scounting Seventy-Two (VS-72, USS Wasp (CV-7), 1938. Silver overall with Chrome Yellow upper wing surfaces. Willow Green nose and fuselage and wing bands. Black tail unit with two angled white stripes on fin. All lettering in black; white 'E' below cockpit, with black drop shadow. National markings on engine cowling and four wing positions. Unit badge on fuselage side

Vought SB2U-2 Vindicator, 1352/72-S-6, Scouting 72, USS Wasp. Silver overall with with silver-grey fuselage metal areas. Chrome Yellow uppersurfaces of wings. Black (ANA 604) tail unit, Insignia White (ANA 511) lower half front of cowling; lettering in black on silver and white on black tail

Vought SB2U-3 Vindicator, 131-S-7, VSMB-131, US Marine Corps, December 1940. Non-specular Light Grey (ANA 602) overall with white codes; national markings on fuselage sides, above port and below starboard wings

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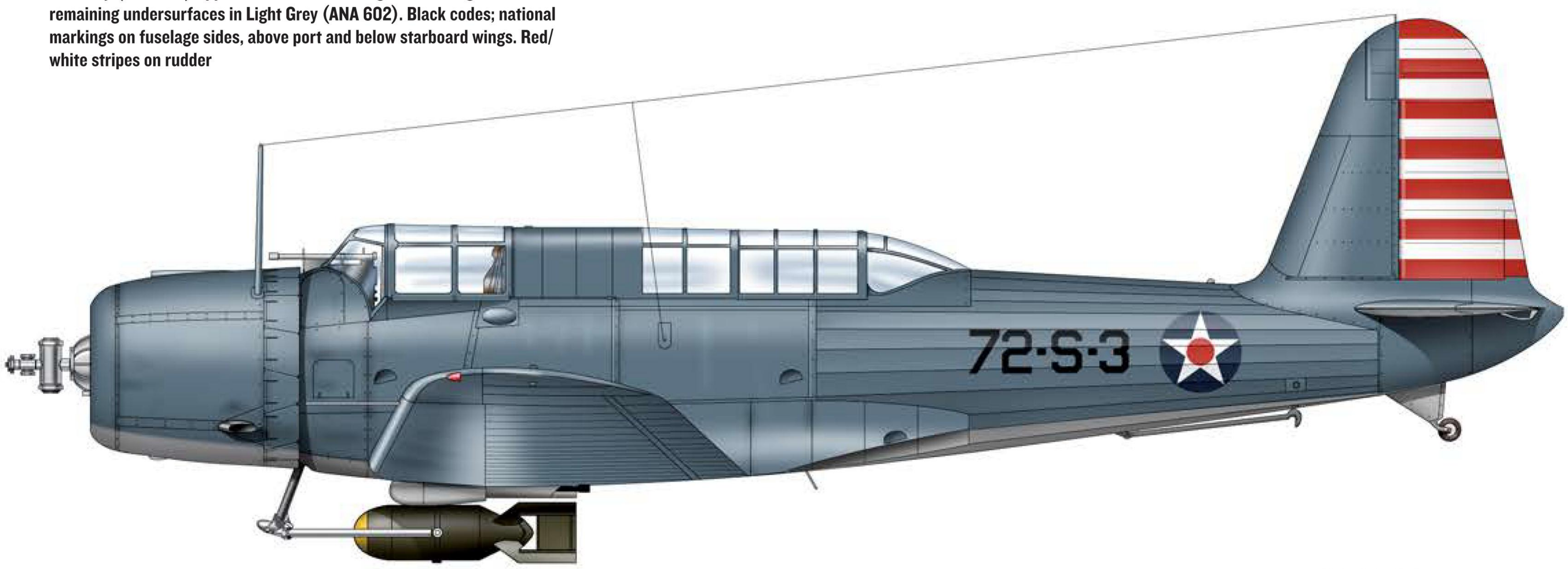
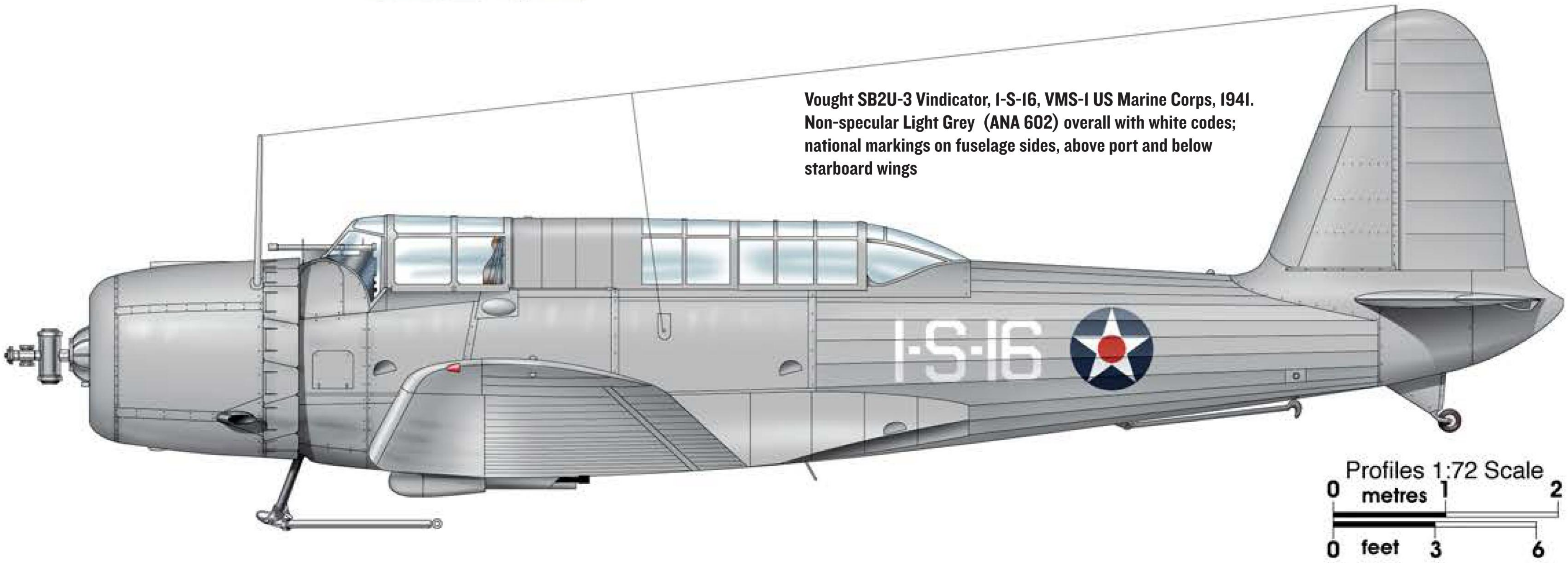
Vought SB2U-2 Vindicator, 72-S-3, VS-72 US Wasp, 1942. Non Specular Sea Grey (ANA 603) upper surfaces and folding area of wing undersides; remaining undersurfaces in Light Grey (ANA 602). Black codes; national markings on fuselage sides, above port and below starboard wings. Red/white stripes on rudder




Vought SB2U-3 Vindicator, 1-S-16, VMS-1 US Marine Corps, 1941. Non-specular Light Grey (ANA 602) overall with white codes; national markings on fuselage sides, above port and below starboard wings




Profiles 1:72 Scale
0 metres 1 2
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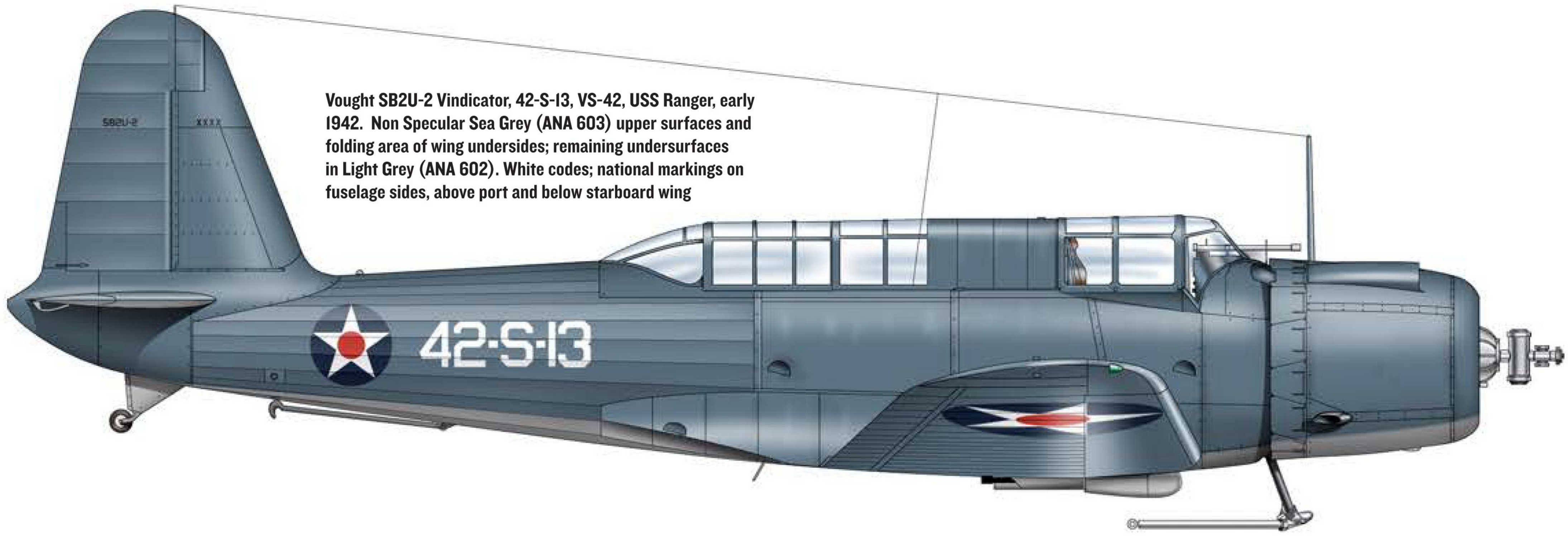
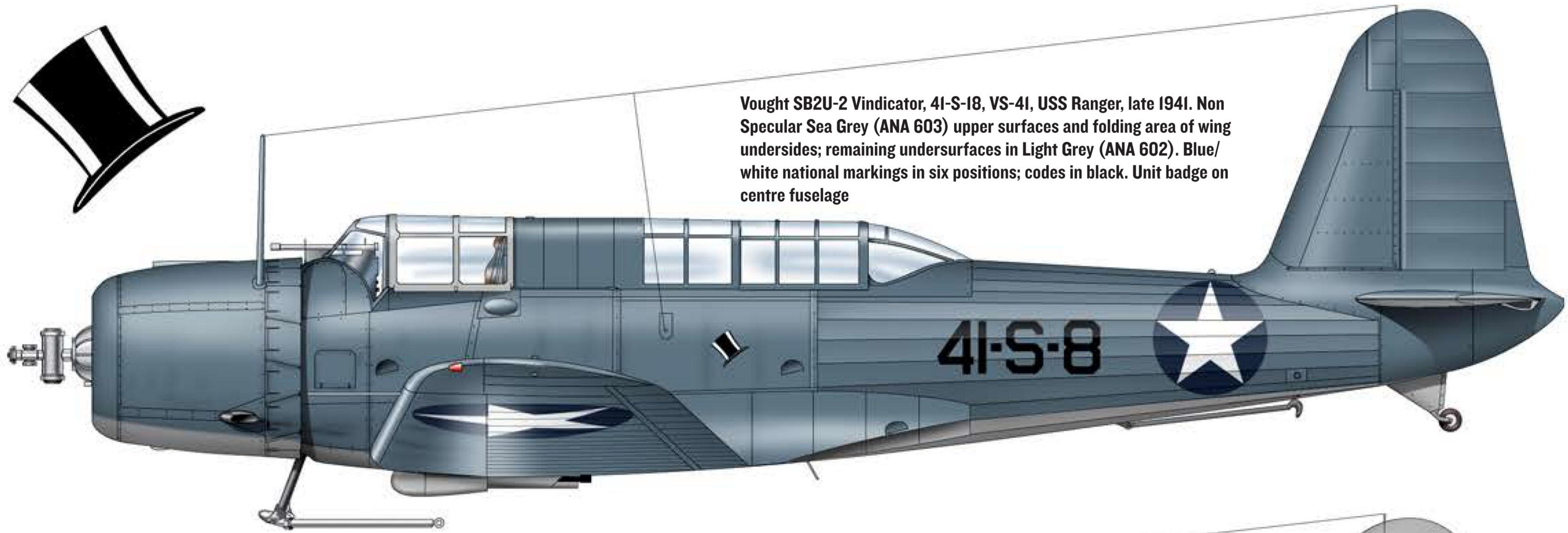
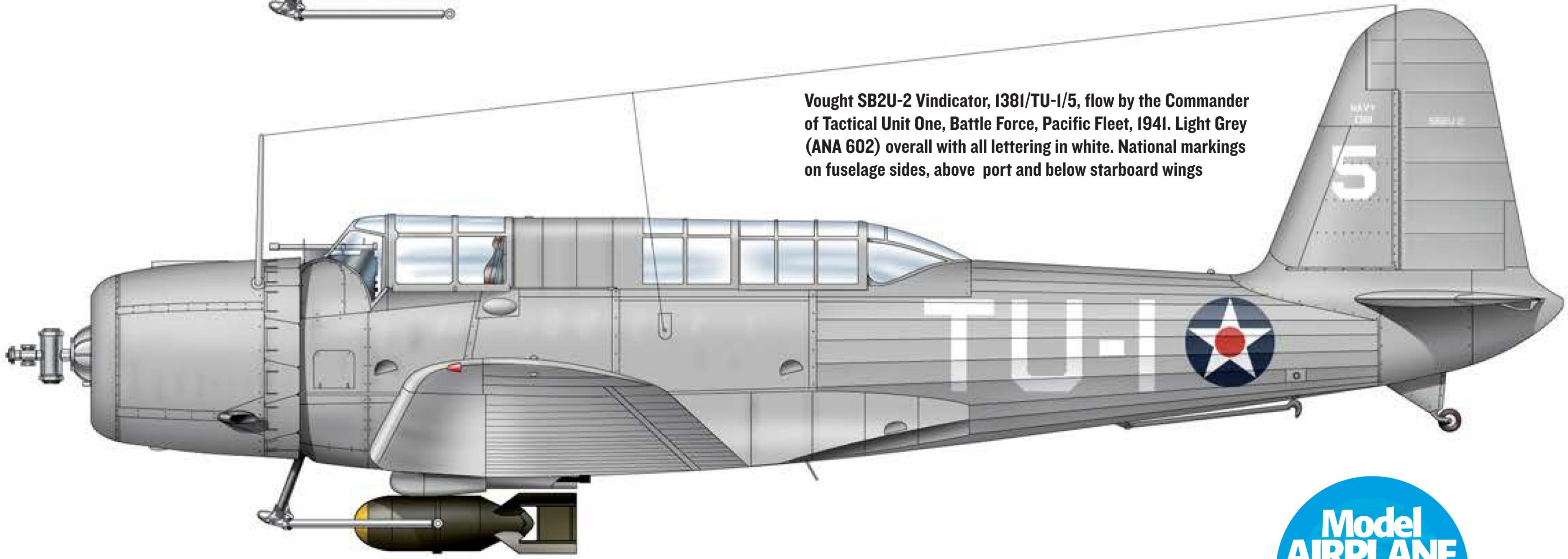



Vought SB2U-2 Vindicator, 42-S-13, VS-42, USS Ranger, early 1942. Non Specular Sea Grey (ANA 603) upper surfaces and folding area of wing undersides; remaining undersurfaces in Light Grey (ANA 602). White codes; national markings on fuselage sides, above port and below starboard wing




Vought SB2U-2 Vindicator, 41-S-18, VS-41, USS Ranger, late 1941. Non Specular Sea Grey (ANA 603) upper surfaces and folding area of wing undersides; remaining undersurfaces in Light Grey (ANA 602). Blue/white national markings in six positions; codes in black. Unit badge on centre fuselage




Vought SB2U-2 Vindicator, 1381/TU-1/5, flow by the Commander of Tactical Unit One, Battle Force, Pacific Fleet, 1941. Light Grey (ANA 602) overall with all lettering in white. National markings on fuselage sides, above port and below starboard wings

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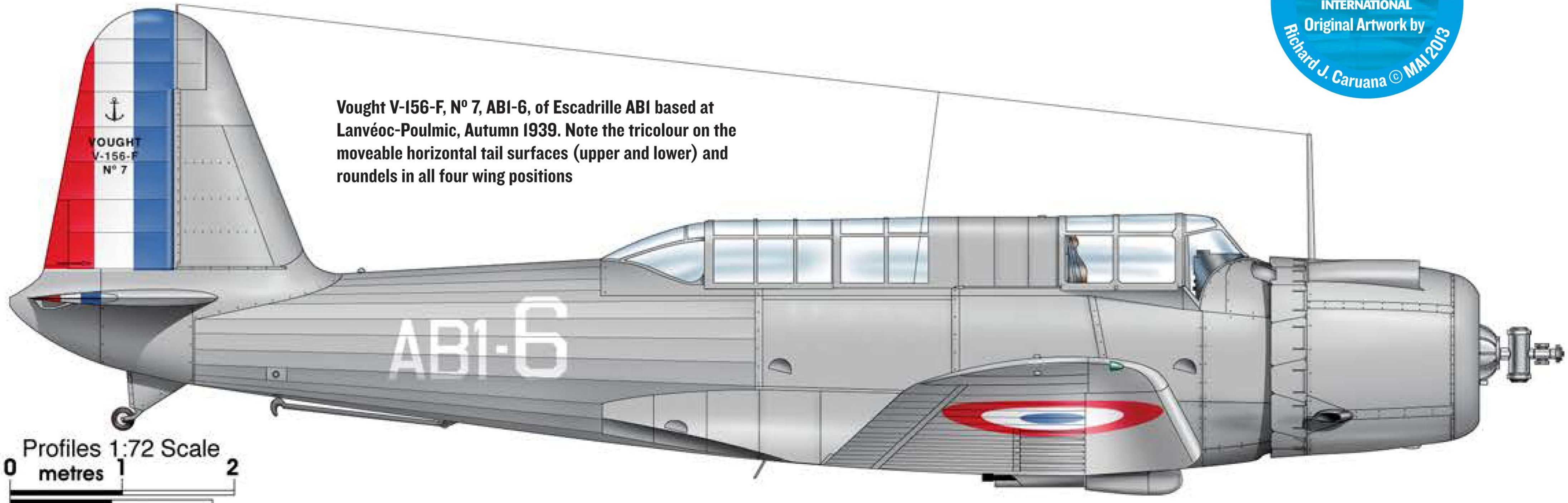
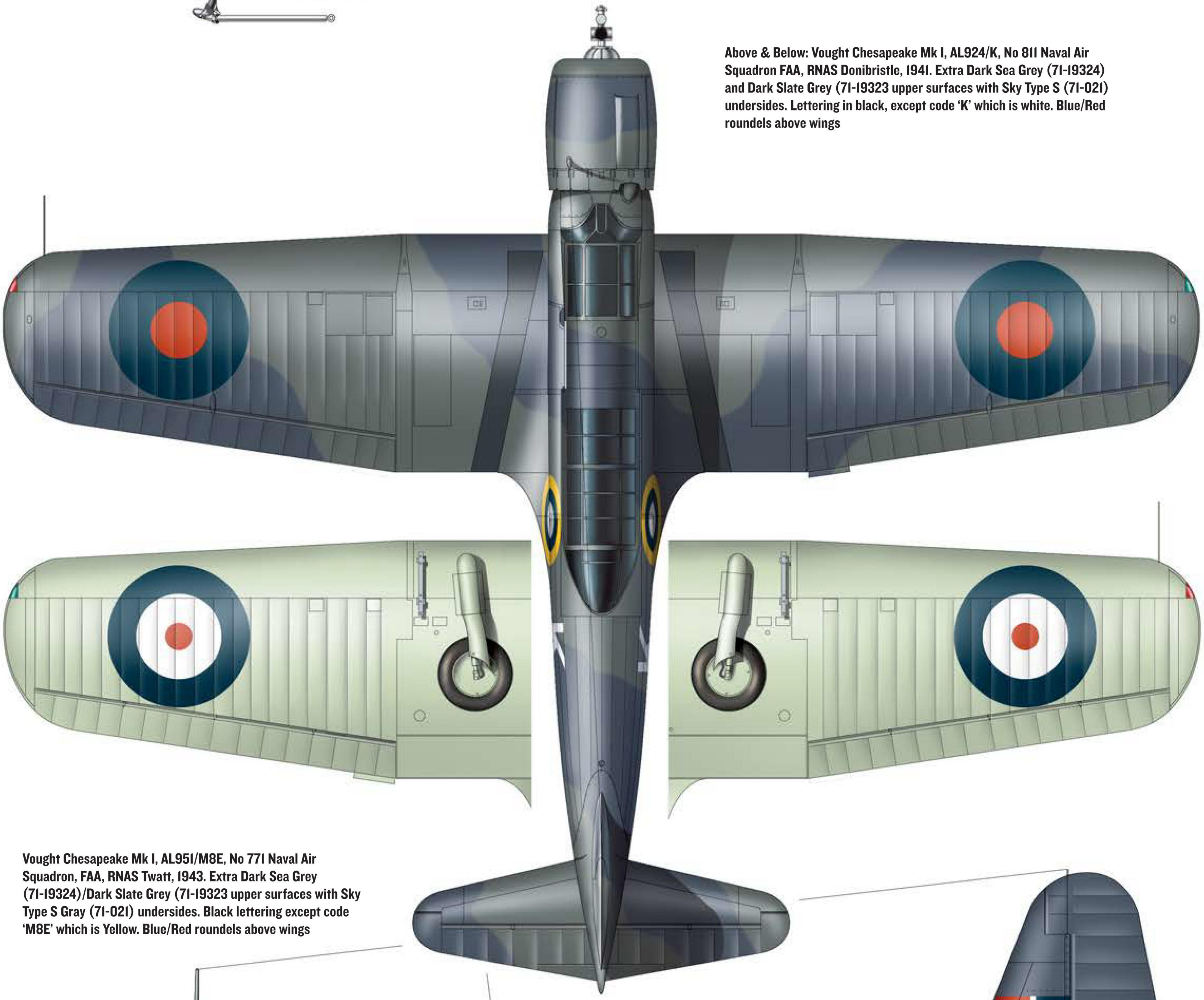


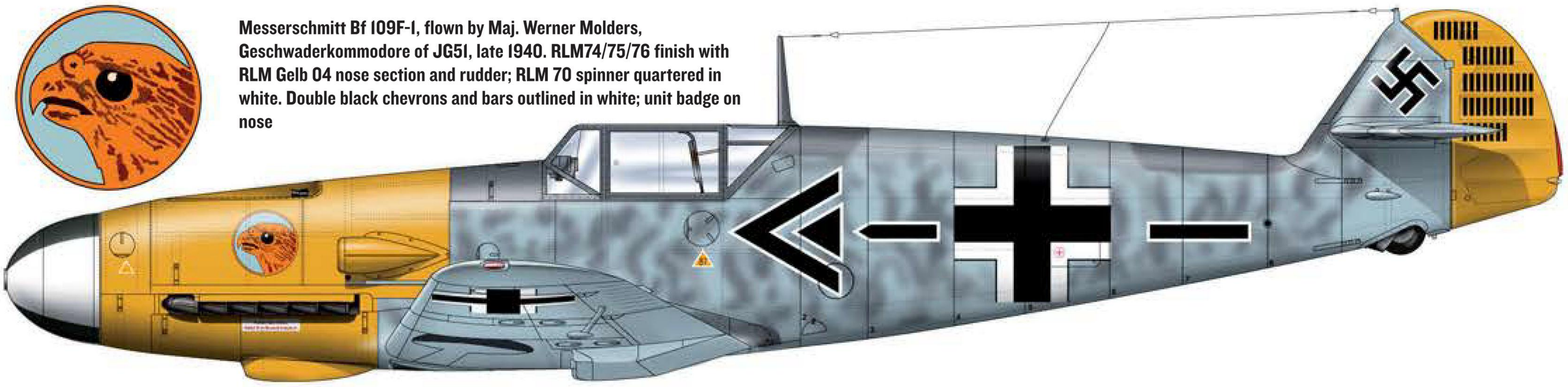

Vought V-156-F, Nº 7, AB1-6, of Escadrille AB1 based at Lanvéoc-Poulmic, Autumn 1939. Note the tricolour on the moveable horizontal tail surfaces (upper and lower) and roundels in all four wing positions

Profiles 1:72 Scale
0 metres 1 2
0 feet 3 6

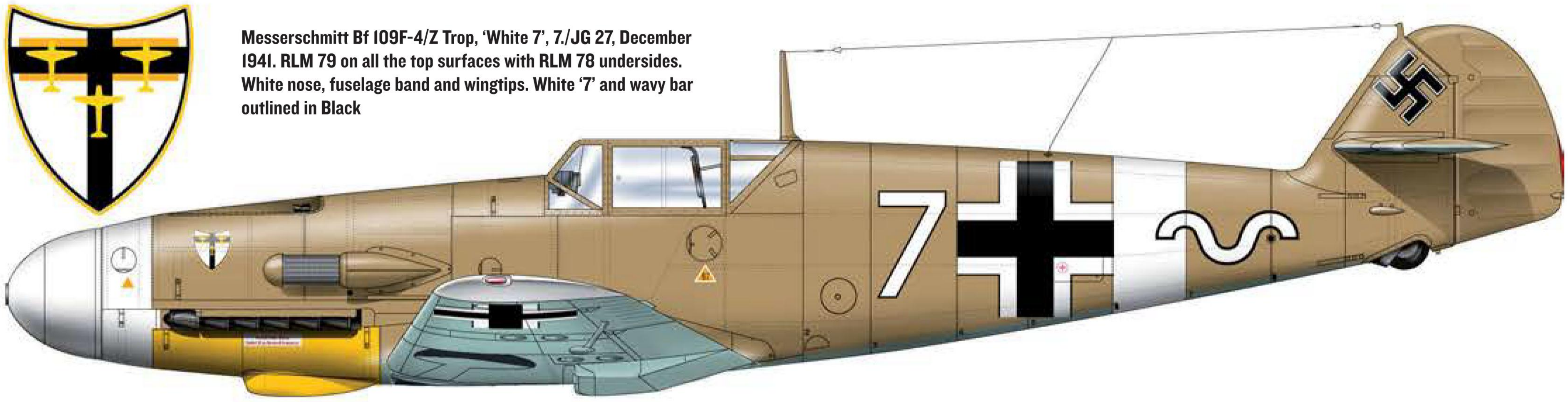
**Above & Below: Vought Chesapeake Mk I, AL924/K, No 811 Naval Air Squadron FAA, RNAS Donibristle, 1941. Extra Dark Sea Grey (71-19324) and Dark Slate Grey (71-19323 upper surfaces with Sky Type S (71-021) undersides. Lettering in black, except code 'K' which is white. Blue/Red roundels above wings**



**Vought Chesapeake Mk I, AL951/M8E, No 771 Naval Air Squadron, FAA, RNAS Twatt, 1943. Extra Dark Sea Grey (71-19324)/Dark Slate Grey (71-19323 upper surfaces with Sky Type S Gray (71-021) undersides. Black lettering except code 'M8E' which is Yellow. Blue/Red roundels above wings**

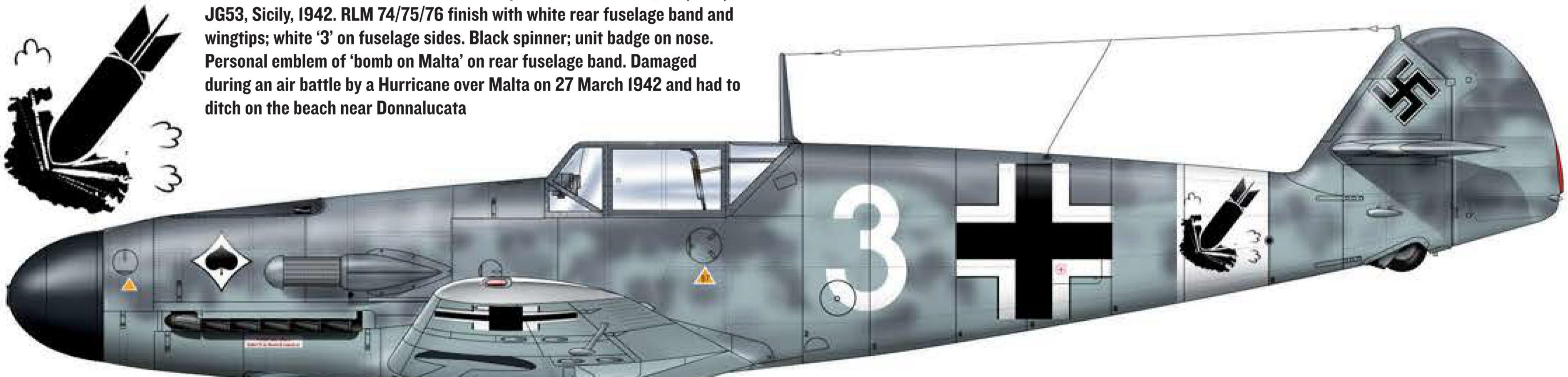


**Messerschmitt Bf 109F-1, flown by Maj. Werner Molders, Geschwaderkommodore of JG51, late 1940. RLM74/75/76 finish with RLM Gelb 04 nose section and rudder; RLM 70 spinner quartered in white. Double black chevrons and bars outlined in white; unit badge on nose**



**Messerschmitt Bf 109F-4/Z Trop, 'White 7', 7./JG 27, December 1941. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, fuselage band and wingtips. White '7' and wavy bar outlined in Black**

**Messerschmitt Bf 109F-4/Z, 'White 4', 4./JG 53, operating in the Mediterranean, April 1942. RLM 02/71/65 finish; white rear fuselage band and '4' on fuselage sides. Spinner is RLM70 quartered in white**



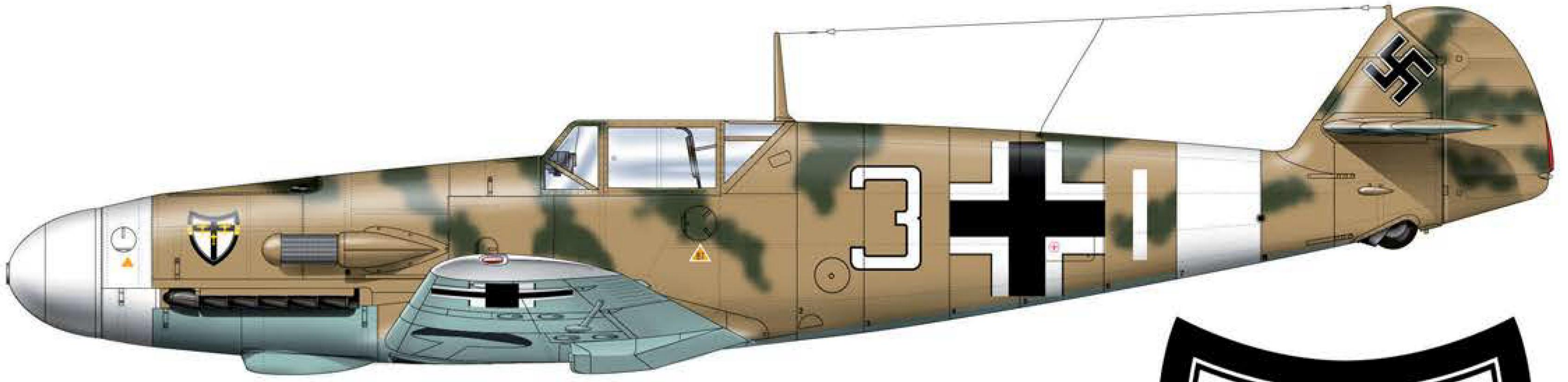
**Messerschmitt Bf 109F-4, White 3, flown by Uffz Dr Felix Sauer, 10 (Jabo)/JG53, Sicily, 1942. RLM 74/75/76 finish with white rear fuselage band and wingtips; white '3' on fuselage sides. Black spinner; unit badge on nose. Personal emblem of 'bomb on Malta' on rear fuselage band. Damaged during an air battle by a Hurricane over Malta on 27 March 1942 and had to ditch on the beach near Donnalucata**

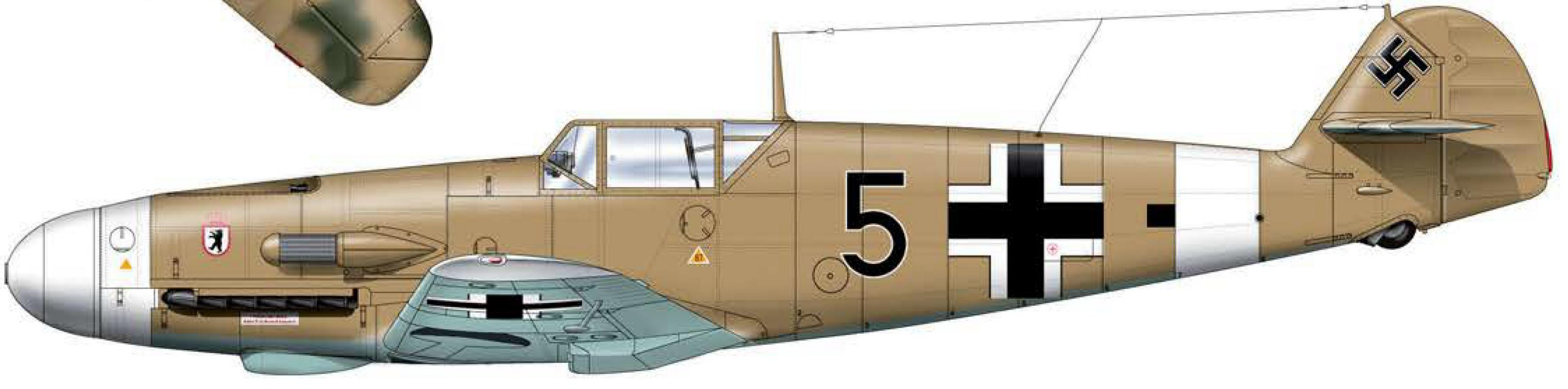
**Messerschmitt Bf 109F-4, W/Nr. 13169, flown by Ofw. Karl Schultz, 8./JG 5, Petsamo (Finland) February 1943. RLM 74 upper surfaces with RLM 76 wave pattern; RLM 76 undersides. Black '4', outlined in white; markings carried below windscreen. RLM 70/White spinner. Yellow underside of engine cowling and wingtips**

PROFILES:1/48 SCALE

0 metres 1 2

0 feet 3 6




**Above & Below: Messerschmitt Bf 109F-2/Trop, 'White 3' of 7./JG27, Qasaba, Autumn 1942. RLM 79 on upper surfaces with large sparse mottles in RLM 80. Undersides are in RLM 78. White nose, wingtips and rear fuselage band, vertical bar on rear fuselage and number 3, the latter outlined in black**

**Below: Messerschmitt Bf 109F-4, 'Black 5', 5./JG 27, Tunisia, early 1942. RLM 79 on all the top surfaces with RLM 78 undersides. White nose, rear fuselage band and wingtips. Black '5' outlined in white, on fuselage sides. Black horizontal bar on rear fuselage partly overpainted by the white band**